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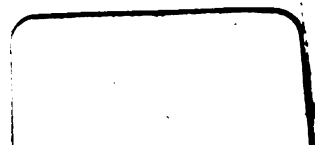
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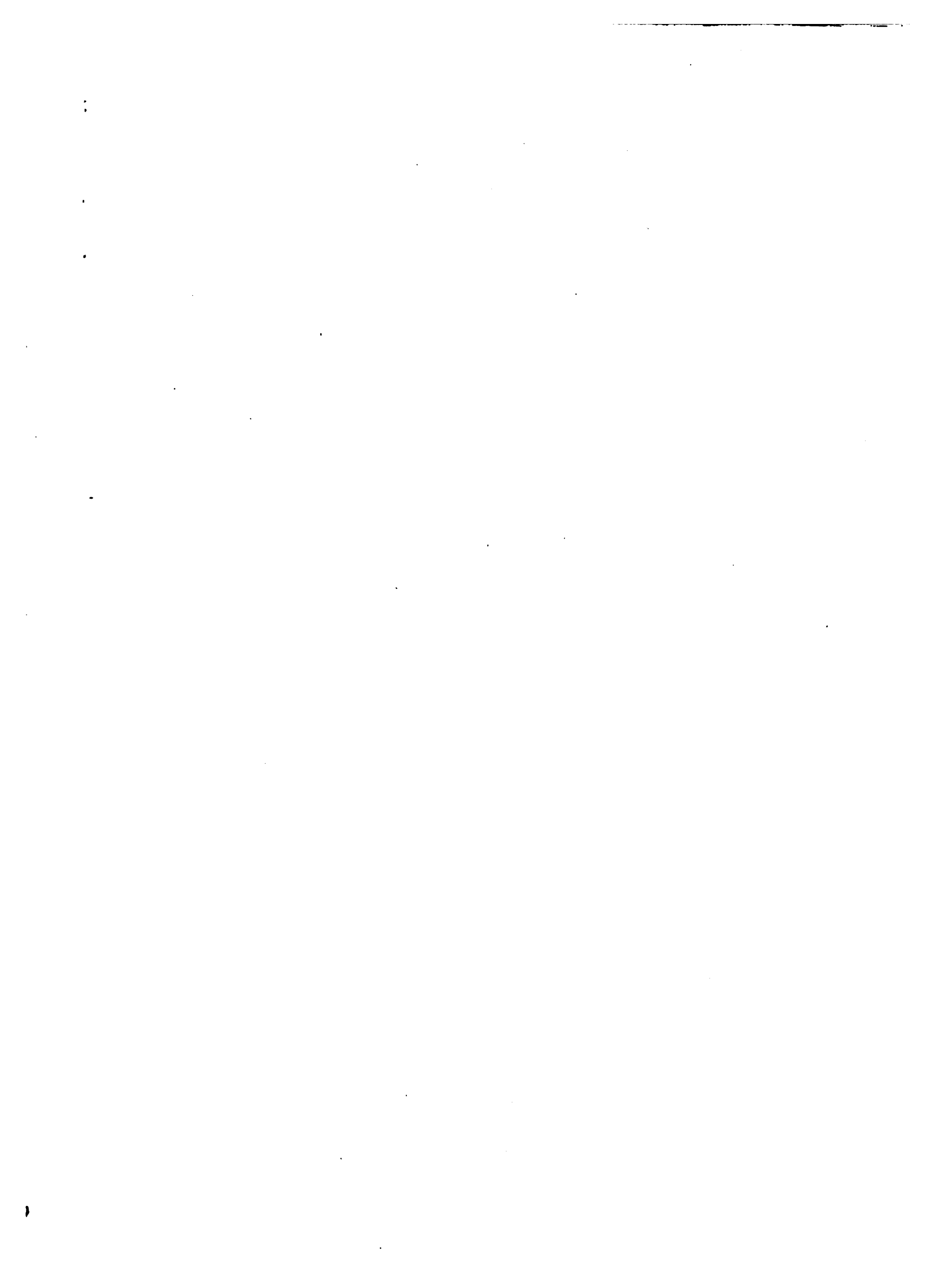
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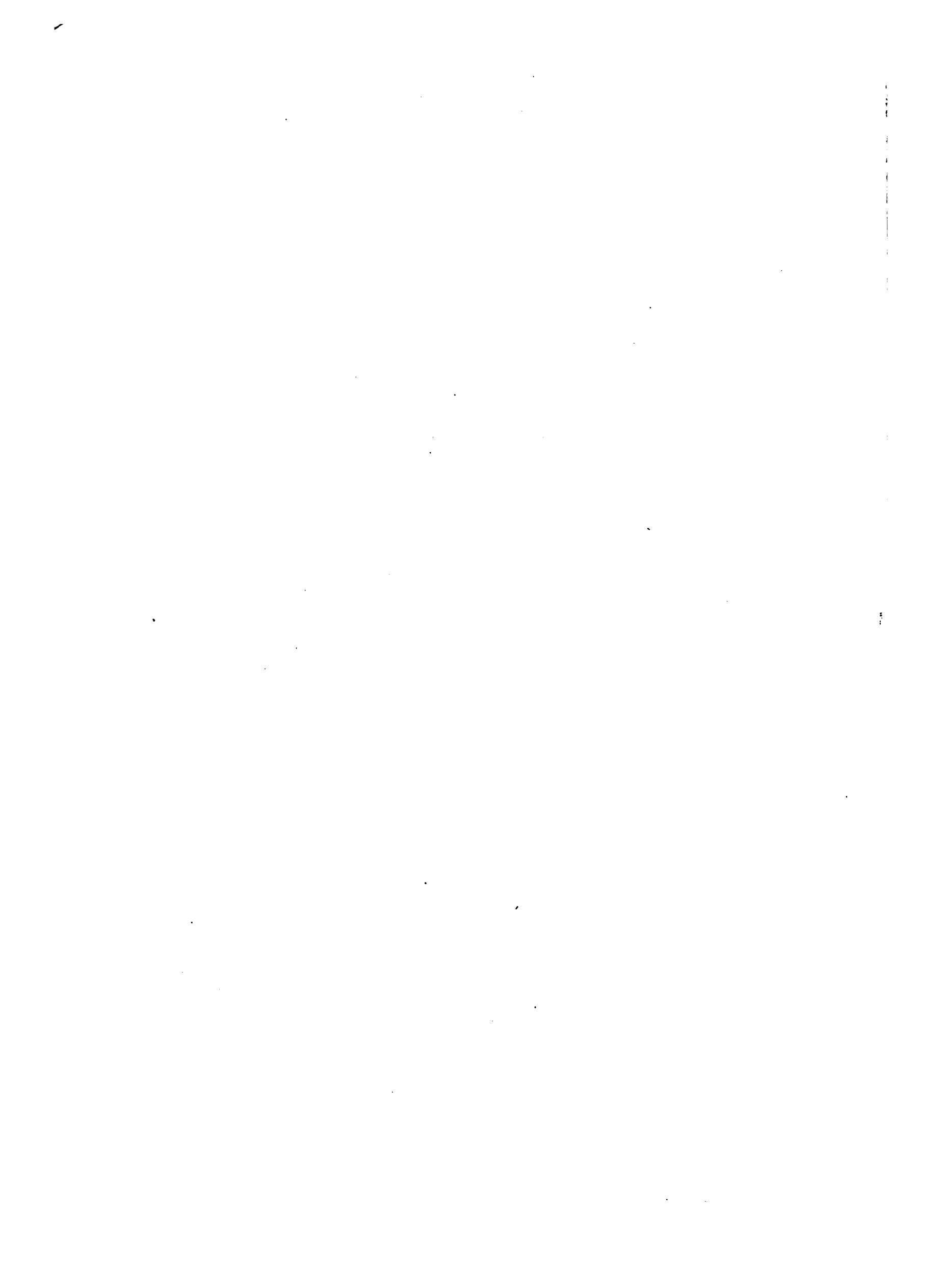
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CONTRACT AND ESTIMATE RECORD BOOK

FOR STEAM AND HOT
WATER HEATING

COMPILED BY
CLARENCE M. LYMAN

The Steamfitter who *carefully* uses this form, filling in every detail will be sure that he is safe in his estimate.

The money columns are double, so that the "estimate" can be carried in the first, and actual cost in the second if desired ; or estimates may be itemized by groups in the first column, and totals carried into the second.

NEW YORK:
DAVID WILLIAMS COMPANY
231-241 WEST THIRTY-NINTH STREET
1914

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Rules for Determining Quantities of Radiation

The rules given below are those of recognized authorities, but the use of any formula must always be a matter of judgment and experience, since the construction and exposure of buildings vary widely.

STEAM HEATING

Mill's Rule

A very popular and easily remembered formula is the well known Mill's 2-20-200 Rule, in which the total amount of radiation required is obtained as follows:

$$\frac{\text{Glass}}{2} + \frac{\text{Ex. wall}}{20} + \frac{\text{Cu. contents}}{200} = \text{sq. ft. of radiation.}$$

NOTE.—This rule does not work out well in the case of halls or rooms having less than ordinary amounts of wall and glass surface, where the opening and closing of outside doors changes the air frequently. In such cases the radiation should be increased 20% or over.

Baldwin's Rule

A much used formula which is applicable to varied outside and inside temperatures

$$\frac{\text{Inside temperature} - \text{outside temperature}}{\text{Steam temperature} - \text{inside temperature}} = \text{the square feet of heating surface required for each square foot of glass or its equivalent in wall surface. And 10 square feet wall surface is assumed to equal 1 square foot of glass. Then add 20% for leakage through doors or windows.}$$

With zero outside and 70 degrees inside this rule reduces to very simple proportions, viz.:

$$\frac{70 - 0}{212 - 70} = \frac{70}{142} = \frac{1}{2} \text{ nearly.}$$

Then the total square feet of equivalent glass surface + 2 + 20% = sq. ft. of radiation.

Carpenter's Rule

$$R = \frac{1}{4} (G + \frac{1}{4}W + .02 n V.)$$

in which R = number square feet radiation required.

G = glass surface.

W = exposed wall surface.

V = cubic contents of room.

n = number of times air in room is to be changed per hour.

This formula is for zero weather, in still air, with ordinarily well constructed buildings.

Cubical Contents Rule

ONE SQUARE FOOT OF DIRECT RADIATION WILL HEAT

DWELLINGS	Cubic Feet of Space by Steam
Living Rooms, one side exposed	45 to 50
Living Rooms, two sides exposed	45 to 50
Living Rooms, three sides exposed	40 to 45
Sleeping Rooms	50 to 70
Halls and Bath Rooms	40 to 50

PUBLIC BUILDINGS	Cubic Feet of Space by Steam
Offices	50 to 75
School Rooms	60 to 80
Factories and Stores	70 to 100
Assembly Halls and Churches	100 to 150

For Direct-Indirect Radiation add 25% and for Indirect Radiation add 50% to the amount of direct surface to secure equal value of heating surface.

HOT WATER HEATING

Any of the above rules are applicable to hot water heating by adding 65% to the radiation required to heat by steam.

Cubical Contents Rule

ONE SQUARE FOOT OF DIRECT RADIATION WILL HEAT

DWELLINGS	Cubic Feet of Space by Hot Water
Living Rooms, one side exposed	25 to 30
Living Rooms, two sides exposed	25 to 30
Living Rooms, three sides exposed	20 to 25
Sleeping Rooms	30 to 40
Halls and Bath Rooms	20 to 30

PUBLIC BUILDINGS	Cubic Feet of Space by Hot Water
Offices	30 to 40
School Rooms	35 to 50
Factories and Stores	40 to 60
Assembly Halls and Churches	60 to 100

EXPOSURE FACTORS

Add for north, northwest or west exposure 15%
 northeast or southwest exposure 10%
 east or southeast exposure 5%
 south exposure 0%

GREENHOUSE HEATING

Steam

Outside Temperature	Zero	Zero
Required Temperature	40° to 50° Fahr.	50° to 70° Fahr.
Direct Steam		
1 sq. ft. Radiation to	5 to 6 sq. ft. glass	4 to 5½ sq. ft. glass

Hot Water

Outside Temperature Fahr.	0°	0°	0°	0°	-10°	-10°	-10°	-10°
Inside Temperature	45°	55°	65°	70°	45°	55°	65°	70°
Sq. ft. of Glass or Equivalent Wall Surface Heated by 1 sq. ft. of Radiation	5	4	3¼	3	4½	3½	3	2

PIPING SIZES

To determine approximately the size of steam mains and principal risers, allow 1 sq. in. area in cross section of main for each 100 sq. ft. of radiation. The following table should give good results in ordinary systems:

Size of Steam Pipes

Sq. Ft. Radiation	1 Pipe System	2 Pipe	
		Flow	Return
100 to 125	1¼"	1"	¾"
125 to 250	1½"	1¼"	1"
250 to 400	2"	1½"	1¼"
400 to 600	2½"	2"	1½"
600 to 900	3"	2½"	2"
900 to 1200	3½"	3"	2½"
1200 to 1600	4"	3½"	3"
1600 to 2000	4½"	4"	3½"
2000 to 2500	5"	4½"	4"

Allowance must be made for pipes hung low, with slight grade, or for long or crooked runs.

The size of branch connections to the radiators is usually determined by the tapping of the radiator supplied.

Pitch mains at least ½" in 10 feet, one inch is better.

Hot Water

The following table is suggested. In many cases one size smaller pipes can be used.

Size of Pipe	Square Feet of Radiation	Size of Pipe	Square Feet of Radiation
1	50	3½	500 to 700
1¼	50 to 80	4	700 to 900
1½	80 to 125	4½	900 to 1100
2	125 to 225	5	1100 to 1400
2½	225 to 350	6	1400 to 2000
3	350 to 500		

STANDARD RADIATOR TAPPINGS

Steam—One Pipe Work

24 sq. ft. and under	1 inch
25 sq. ft. to 60 sq. ft.	1¼ inch
61 sq. ft. to 100 sq. ft.	1½ inch
Above 100 sq. ft.	2 inch

Steam—Two Pipe Work

48 sq. ft. and under	1 x ¾ inch
49 sq. ft. to 96 sq. ft.	1¼ x 1 inch
Above 96 sq. ft.	1½ x 1¼ inch

Vapor tappings, top and bottom opposite ends; supply, ¾ inch; return, ½ inch.

Hot Water—Supply and Return

40 sq. ft. and under	1 inch
41 sq. ft. to 72 sq. ft.	1¼ inch
Above 72 sq. ft.	1½ inch

Some Radiator manufacturers tap as follows:

50 feet and under	1 inch
50 ft. to 90 ft.	1¼ inch
Above 90 ft.	1½ inch

FITTINGS OCCASIONALLY USED

Branch Tees

Number of Outlets.	2	3	4	5	6	7	8	9	10	12	Cost %	Sell %
1 in. Outlets	1.00	1.05	1.15	1.35	1.60	1.90	2.20	2.65	3.15	4.40		
Center to Center 2 1/2 in.	1.00	1.15	1.30	1.45	1.75	2.20	2.45	2.90	3.30	4.75		
1 1/4 in. Outlets	1.15	1.35	1.60	1.85	2.10	2.45	2.75	3.40	4.00	5.10		
Center to Center 3 in.	1.30	1.65	2.00	2.40	2.80	3.20	3.60	4.30	4.80	5.25		
1 1/2 in. Outlets	1.50	1.90	2.40	2.90	3.30	3.90	4.50	5.25	5.85	6.50		
Center to Center 3 1/2 in.	2.10	2.70	3.35	4.00	4.65	5.25	5.85	6.50	7.60	8.50		
2 in. Outlets	2.85	3.45	4.15	4.85	5.55	6.50	7.00	8.25	9.25	10.50		
Center 4 1/2 in.	4.10	5.25	6.40	7.65	8.80	10.60	11.50	12.25	13.50	15.00		

Hook and Expansion Plates

No. of Pipes, Inches	1	2	3	4	5	6	7	8	9	10	12	Cost %	Sell %
Hook Plates 1 in.	.09	.18	.23	.26	.32	.38	.48	.59	.65	.70	1.00		
Hook Plates 1 1/4 in.	.10	.21	.27	.32	.41	.52	.68	.80	.90	1.20	1.40		
Hook Plates 1 1/2 in.	.15	.28	.43	.58	.72	.88	1.10	1.25	1.40	1.55	1.90		
Hook Plates 2 in.	.22	.43	.65	.90	1.15	1.35	1.50	1.75	2.00	2.25	2.70		
Expansion Plates 1 in.	.15	.25	.35	.50	.60	.70	.80	.95	1.01	1.10	1.70		
Expansion Plates 1 1/4 in.	.17	.27	.40	.60	.70	.80	.90	1.15	1.30	1.50	2.00		
Expansion Plates 1 1/2 in.	.25	.40	.60	.75	.90	1.00	1.10	1.25	1.40	1.60	2.10		
Expansion Plates 2 in.	.35	.85	1.00	1.35	1.55	2.00	2.45	2.85	3.25	3.75	4.75		

Pipe Hangers

Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	Cost %	Sell %
Han. Ball No. 1 with screw	.15	.18	.18	.20	.22	.25	.30	.35	.37	.45	.58	.70		
Han. No. 2 with beam clamp	.55	.58	.58	.60	.62	.65	.70	.75	.77	.85	.98	1.10		

Ox Bow, per 100. .750.

Chain for Ox Bow, per 100 ft. .450

Unions

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	Cost %	Sell %
Kewanee Unions	.27	.40	.48	.66	.80	1.14	2.10	2.65		
Dart Unions	.60	.60	.80	1.20	1.60	2.00	3.20	4.80		
Jefferson Unions	.60	.60	.80	1.20	1.60	2.00	3.20	4.80		

Dimensions of Standard Wrought Iron Pipe

Nominal Inside Diam. Inches	Actual Diameter Inches		Thickness Inches	Circumference Inches		Area Square Inches		Length of Pipe Containing One Gallon Feet	Contained Pounds of Water per Lineal Foot
	Inside	Outside		Internal	External	Internal	External		
1/2	.27	.40	.07	.84	1.27	.06	.12	836.60	.024
3/4	.36	.54	.08	1.14	1.60	.10	.22	148.80	.044
1	.49	.67	.09	1.55	2.12	.19	.35	100.80	.062
1 1/4	.62	.84	.10	1.95	2.65	.30	.55	63.20	.132
1 1/2	.82	1.05	.11	2.58	3.29	.53	.86	38.10	.230
1 3/4	1.04	1.31	.13	3.29	4.13	.86	1.35	22.30	.373
2	1.38	1.66	.14	4.33	5.21	1.49	2.16	12.80	.648
2 1/2	1.61	1.90	.14	5.08	5.98	2.03	3.83	9.40	.883
3	2.06	2.37	.15	6.49	7.46	3.35	4.43	5.70	1.454
3 1/2	2.46	2.87	.20	7.75	9.03	4.78	6.49	4.02	2.072
4	3.06	3.50	.21	9.63	10.96	7.38	9.62	2.60	3.202
4 1/2	3.56	4.00	.22	11.14	12.56	9.83	12.56	1.95	4.285
5	4.02	4.50	.23	12.64	14.13	12.73	15.90	1.51	5.517
5 1/2	4.50	5.00	.24	14.15	15.70	15.93	19.63	1.20	6.908
6	5.04	5.56	.25	15.84	17.47	19.99	24.29	.96	8.668
6 1/2	5.66	6.22	.28	19.05	20.81	28.88	34.47	.66	12.521
7	6.06	6.62	.30	22.06	23.95	38.73	45.66	.49	16.790
7 1/2	6.62	7.22	.32	25.07	27.09	50.03	58.42	.38	21.688
8	7.02	7.62	.34	28.27	30.43	63.63	73.71	.30	27.580
8 1/2	7.68	8.32	.36	31.47	33.77	78.83	90.79	.24	34.171
9	8.00	8.68	.37	34.55	37.91	95.03	108.43	.20	41.189
10	10.01	10.75	.37	37.70	40.05	113.09	127.67	.17	49.017

Heating Surface in Wrought Pipe

Length of Pipe in Ft.	Size of Pipe									
	1/2	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6
1	.275	.346	.434	.494	.622	.753	.916	1.175	1.455	1.739
5	1.400	1.700	2.200	2.400	3.100	3.800	4.600	5.800	7.300	7.700
10	2.700	3.500	4.300	4.900	6.200	7.500	9.100	11.800	14.600	17.400
15	4.100	5.200	6.500	7.400	9.300	11.300	13.700	17.600	21.800	26.100
20	5.500	6.900	8.700	9.900	12.500	15.000	18.300	23.500	29.100	34.800
25	6.900	8.600	10.900	12.300	15.600	18.800	22.900	29.300	36.300	43.500
30	8.300	10.400	13.000	14.800	18.700	22.500	27.500	35.300	43.600	52.100
35	9.600	12.100	15.200	17.300	21.800	26.300	32.000	41.100	50.900	60.800
40	11.000	13.800	17.400	19.800	24.900	30.000	36.600	47.000	58.200	69.500
45	12.400	15.600	19.500	22.200	28.000	33.800	41.200	52.900	65.500	78.200
50	13.800	17.300	21.700	24.700	31.100	37.600	45.800	58.700	72.700	87.000
55	15.200	19.000	23.900	27.100	34.400	41.300	50.400	64.800	80.100	95.600
60	16.600	20.800	26.100	29.600	37.700	45.000	55.000	70.800	87.300	104.300
65	18.000	22.600	28.300	32.100	40.900	48.800	59.500	76.400	94.500	112.900
70	19.400	24.400	30.500	34.600	43.800	52.700	64.400	82.300	101.900	121.700
75	20.800	26.200	32.700	37.100	46.700	56.600	69.300	88.100	109.100	130.400
80	22.200	28.000	34.900	39.600	49.600	60.700	74.300	94.000	116.400	139.100
85	23.600	29.800	37.100	42.100	52.500	64.800	79.400	99.900	123.700	147.900
90	25.000	31.600	39.300	44.600	55.400	68.900	84.500	105.800	130.900	156.500
95	26.400	33.400	41.500	47.100	58.300	73.000	89.600	111.600	138.200	165.200
100	27.800	35.200	43.700	49.600	61.200	77.100	94.700	117.500	145.500	173.900

EXPANSION TANK DATA

List Prices for Expansion Tanks

Size Inches	Capacity Gallons	Square Feet of Radiation	Price of Tank	Weight of Tank Pounds	Cost %	Sell %
10x20	8	250	\$ 7.50	27		
12x20	10	300	8.00	34		
12x30	15	500	9.00	47		
14x30	20	700	12.50	55		
16x30	26	950	14.00	71		
16x36	32	1300	15.00	78		
16x48	42	2000	16.50	93		
18x60	66	3000	31.00	163		
20x60	82	5000	37.00	187		
22x60	100	6000	51.00	226		

Add \$.75 to the above list prices for trimmings.

Table of Expansion of Wrought Iron Pipe

Temperature of the Air when the Pipe is Fitted	Length of Pipe when Fitted	Length of Pipe when Heated to					
		215°	265°	297°	338°		
Deg. Fahr.	Ft.	Ft.	In.	Ft.	In.	Ft.	In.
Zero	100	100	1.72	100	2.12	100	2.31
32	100	100	1.47	100	1.78	100	2.12
64	100	100	1.21	100	1.61	100	2.19

Table of Mains and Branches

Main	Branch
1 in. will supply 2	3/4 in.
1 1/4 in. will supply 2	1 in.
1 1/2 in. will supply 2	1 1/4 in.
2 in. will supply 2	1 1/2 in.
2 1/2 in. will supply 2	1 3/4 in. and 1 1/4 in., or 1 2 in. and 1 1/4 in.
3 in. will supply 2	2 1/2 in. and 1 2 in., or 2 2 in. and 1 1 1/2 in.
3 1/2 in. will supply 2	2 1/2 in. or 1 3 in., and 1 2 in. or 3 2 in.
4 in. will supply 2	1 3 1/2 in. and 1 2 1/2 in., or 2 3 in. and 4 2 in.
4 1/2 in. will supply 2	1 3 1/2 in. and 1 3 in., or 1 4 in. and 1 2 1/2 in.
5 in. will supply 2	1 4 in. and 1 3 in., or 1 4 1/2 in. and 1 2 1/2 in.
6 in. will supply 2	1 4 in. and 1 3 in., or 4 3 in. or 10 2 in.
7 in. will supply 2	1 6 in. and 1 4 in., or 3 4 in. and 1 2 in.
8 in. will supply 2	1 6 in. and 1 5 in., or 5 4 in. and 2 2 in.

Properties of Saturated Steam

Pressure or Vacuum Pounds per sq. in.	Temperature Fahr.	Heat of the Liquid B.T.U.	Latent Heat B.T.U.	Total Heat B.T.U.	Volume of 1 lb. of Steam Cubic Feet
-12	137	105	1019	1124	135
-10	160	128	1003	1131	78.30
-8	175	143	992	1135	55.90
-6	187	155	984	1139	43.60
-4	197	165	977	1142	35.80
-2	205	173	971	1144	30.60
0	212	180.9	965.7	1146.6	26.36
1	215	184	964	1148	25
2	219	188	961	1149	23
3	222	191	959	1150	22.30
4	224	193	957	1150.5	21.20
5	227	196	955	1151	20.16
10	239	208	946	1154	16.30
15	249	218.8	939.3	1158.1	13.70
20	258.7	228	932.5	1161	11.85
25	266.7	236.2	927.1	1163.3	10.36
30	273.9	243.5	922	1165.5	9.34
35	280.5	250.2	917.3	1167.5	8.45
40	286.5	256.3	913	1169.3	7.73
45	292.2	262.1	909	1171.1	7.11
50	297.5	267.5	905.2	1172.7	6.61

Chimney Flues

Chimney flues for heating apparatus should be ample in size and carried as nearly straight as possible from a point near the cellar floor to above the highest projection of the roof. They should be independent, having no connection with other flues or openings, and always of the same area from top to bottom. A well jointed tile flue, preferably round, is better than a square brick flue of larger area. The chimney flue should be carried three or four feet below the smoke pipe entrance and provided with a clean-out door at the base, tightly fitted, to facilitate the removal of accumulated dust and soot. The size of flues may be calculated from the following table:

PROPERTIES OF CIRCLES

Areas					
Diam.	Area	Diam.	Area	Diam.	Area
. ½	.1963	6.	28.2744	20.	314.16
1.	.7854	7.	38.4846	22.	380.13
1. ½	1.7671	8.	50.2656	24.	452.39
2.	3.1416	9.	63.6174	26.	530.93
2. ½	4.9087	10.	78.5400	28.	615.75
3.	7.0686	11.	95.0334	30.	706.86
3. ½	9.6211	12.	113.0980	32.	804.25
4.	12.5664	14.	153.9380	34.	907.92
4. ½	15.9043	15.	176.7150	36.	1017.88
5.	19.6350	16.	201.0620	38.	1134.12
5. ½	23.7583	18.	254.4670	40.	1256.64

7854 times the square of the diameter equals the area of a circle.

Diameter and Circumferences					
Diam.	Circum.	Diam.	Circum.	Diam.	Circum.
. ½	1.5708	6.	18.8496	20.	62.8320
1.	3.1416	7.	21.9912	22.	69.1152
1. ½	4.7124	8.	25.1328	24.	75.3984
2.	6.2832	9.	28.2744	26.	81.6816
2. ½	7.8540	10.	31.4160	28.	87.9648
3.	9.4248	11.	34.5576	30.	94.2480
3. ½	10.9956	12.	37.6992	32.	100.5312
4.	12.5664	14.	43.9824	34.	106.8144
4. ½	14.1372	15.	47.1240	36.	113.0980
5.	15.7080	16.	50.2656	38.	119.3816
5. ½	17.2788	18.	56.5488	40.	125.6640

3.1416 times the diameter of a circle equals the circumference.
 3 1-7 times the diameter is near enough for most practical purposes.
 Circumference of a circle times 0.159155 equals radius.
 Circumference of a circle times 0.31831 equals diameter.
 Diameter of a circle times 0.86 equals side of inscribed equilateral triangle.
 Diameter of a circle times 0.7071 equals side of an inscribed square.
 Circumference of a circle times 0.225 equals side of an inscribed square.
 Circumference of a circle times 0.282 equals side of an equal square.
 Diameter of a circle times 0.8862 equals side of an equal square.
 Base of a triangle times ½ the altitude equals area.
 Multiplying both diameters and 0.7854 together equals area of an ellipse.

MISCELLANEOUS DATA

Number of Gallons in Tanks

Length or Depth in Feet	Diameter in Inches									
	18	24	30	36	42	48	54	60	66	72
2	26	47	73	105	144	188	238	294	356	424
2 ½	33	59	90	131	180	235	298	367	445	530
3	40	71	109	157	216	282	357	440	534	636
3 ½	47	83	127	183	252	329	416	513	623	747
4	54	95	145	209	288	376	475	586	712	848
4 ½	61	107	163	235	324	423	534	659	801	954
5	68	119	180	261	360	470	593	732	890	1060
5 ½	75	131	200	287	396	517	652	805	979	1166
6	82	143	217	313	432	564	711	878	1068	1272
6 ½	89	155	235	339	468	611	770	951	1157	1378
7	96	167	253	365	504	658	829	1024	1246	1484
7 ½	103	179	271	391	540	705	888	1097	1335	1590
8	110	191	289	417	576	752	947	1170	1424	1696
8 ½	117	203	307	443	612	799	1006	1243	1513	1802
10	137	239	361	521	720	940	1183	1462	1780	2120
12	167	287	433	625	864	1128	1419	1754	2136	2544
14	197	335	505	729	1008	1316	1655	2046	2492	2968
16	227	383	577	833	1152	1504	1891	2338	2848	3392
18	257	431	649	937	1296	1692	2127	2630	3204	3816
20	287	479	725	1041	1440	1880	2363	2922	3560	4240

Pressure of Water for Each Foot in Height

Feet in Height	Pounds per Square Inch	Feet in Height	Pounds per Square Inch	Feet in Height	Pounds per Square Inch
1	.43	15	6.49	50	21.65
2	.86	20	8.66	70	30.32
5	2.16	25	10.82	80	34.65
10	4.33	40	17.32	100	43.31

Measure of Surface
 144 sq. inches = 1 sq. foot.
 9 sq. feet = 1 sq. yard.
 30 ¼ sq. yards = 1 sq. rod.
 40 sq. rods = 1 rood.
 4 roods = 1 acre.
 10 sq. chains = 1 acre.
 640 acres = 1 sq. mile.

Measure of Solidity.
 1728 cu. inches = 1 cubic foot.
 27 cubic feet = 1 cubic yard.
Liquid Measure
 4 gills = 1 pint
 2 pints = 1 quart
 4 quarts = 1 gallon
 31 ½ gallons = 1 barrel

MISCELLANEOUS DATA (Continued)

Weights

One Cubic inch of Cast Iron weighs 0.26 pounds.
 One Cubic inch of Wrought Iron weighs 0.28 pounds.
 One Cubic inch of Water weighs 0.036 pounds.
 One U. S. Gallon weighs 8.33 pounds.
 One Imperial Gallon weighs 10.00 pounds.
 One U. S. Gallon equals 231.00 cubic inches.
 One Imperial Gallon equals 277.274 cubic inches.
 One Cubic foot of Water equals 7.48 U. S. gallons.
 One Pound of Steam equals 27.222 cubic feet.
 One Pound of Air equals 13.817 cubic feet.

Boiling Points of Various Fluids

Water in Vacuum	98°	Refined Petroleum	316°
Water, Atmospheric Pressure	212°	Turpentine	315°
Alcohol	173°	Sulphur	570°
Sulphuric Acid	240°	Linseed Oil	597°

Melting Points of Different Metals

Brass	1900°	Lead	608°
Bronze	1692°	Steel	2500°
Copper	1996°	Tin	446°
Iron (cast)	2450°	Zinc	680°
Iron (wrought)	2912°		

Bronzing

Allow 1 lb. gold bronze for each 100 sq. ft. radiation.
 Allow ½ lb. aluminum bronze for each 100 sq. ft. radiation.
 Allow 1 qt. bronze liquid for each 100 sq. ft. radiation.
 If a coat of priming paint (applied without oil) is used, only about half the above quantities will be required.
 Do not leave bronzing liquid uncorked when not in use, as exposed to the air, it thickens and becomes worthless.
 Do not get any bronze into the liquid can, as even a small quantity turns the liquid green.
 Use a clean mixing can and a clean brush if good work is desired. Endeavor to cover surface with one stroke of brush if possible; do not work it more than absolutely necessary.

Blowing Off a Steam Boiler

A steam boiler should be blown off within one week after it is in operation to remove the unavoidable accumulation of oil, grease, etc., that has a tendency to cause a boiler to foam, preventing the generation of steam and causing an unsteady water line. This can only be done when the boiler is under pressure. If one blowing off does not result in a steady water line and clean gauge, the operation must be repeated a second, or if necessary, a third and fourth time.
 1—Close all radiator valves, or, if the mains are valved, close both flow and return valves tightly, and also close the cock below the diaphragm regulator on boiler.
 2—With a wood fire and boiler filled to center of water glass, get up a pressure of not less than 10 to 12 lbs. by the steam gauge.
 3—Open the blow-off cock, being careful that sufficient fire is carried to maintain a pressure until the last gallon of water is blown out.
 4—Draw any remaining fire and open all fire and flue doors wide.
 5—Allow the boiler to cool down, which will probably take from one-half to one hour, then close the blow-off cock and slowly fill boiler to water line.
 6—Open all valves on flow and return lines, the diaphragm cock, and also the radiator valves.
 7—Rebuild fire.
 8—Repeat the operation until there is a steady water line and a clean gauge glass.

Coal Storage

Anthracite coal, 36 cubic feet to ton (2000 lbs.)
 Bituminous coal, 40 cubic feet to ton (2000 lbs.)
 A box 4 feet long, 3 feet 5 inches wide and 2 feet 8 inches deep holds one ton (36 cu. feet) anthracite. To determine the capacity of a given bin, multiply length and breadth and depth together and divide by 36 for hard coal or 40 for soft coal.

Heat Values

B. T. U. British Thermal Unit—the quantity of heat necessary to raise one pound of water one degree Fahr.
 Calorie. The metric heat unit = 3.97 B. T. U.
 1 lb. Anthracite Coal = approx. 13,500 B.T.U.
 1 lb. Bituminous Coal = approx. 14,400 B.T.U.
 1 lb. Lignite = approx. 11,700 B.T.U.
 1 lb. Wood = approx. 7,200 B.T.U.

It is customary to consider as available for evaporative purposes 8000 B.T.U. per lb. of coal consumed in the better type of heating boilers.
 It is customary to estimate that one sq. ft. of radiation in still air at 70° condenses ¼ lb. of steam per sq. ft. per hour; one hundred sq. ft. then condenses about 25 lbs. of steam per hour equalling roughly 3 gals. of water.
 It is approximately accurate to say that in the better types of house heating boilers under proper draft one lb. of coal will evaporate one gallon of water from 212° to steam at atmospheric pressure.
 One B.T.U. will raise the temperature of 55 cu. ft. of air one degree, or .785 cu. ft. from zero to 70°. Or stated in another way; one lb. of coal burned under favorable conditions will produce sufficient heat to raise the temperature of 6280 cu. ft. of air from zero to 70° Fahr.
 Water expands ¼ its bulk when heated from 40° to 212° Fahr.

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees							
1/2 in. Galv. Tees, Mal.				Return Bends R. & L.			
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees							
1/2 in. Galv. Tees, Mal.				Return Bends R. & L.			
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Elbows			
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1¼ in. Blk. Elbows, C. I.			
								1½ in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2½ in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets	Size Outlets	Size Run	
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe	Expansion		
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or	ft. 1 in. Pipe Covering		
x x Reducing Tees				Pcs. or	ft. 1 1/4 in. Pipe Covering		
x x Reducing Tees				Pcs. or	ft. 1 1/2 in. Pipe Covering		
x x Reducing Tees				Pcs. or	ft. 2 in. Pipe Covering		
x x Reducing Tees				Pcs. or	ft. 2 1/2 in. Pipe Covering		
x x Reducing Tees				Pcs. or	ft. 3 in. Pipe Covering		
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron	Tin		
in. to in. Bushings				Bricks	Sand		
Caps				Cement	Nails		
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil	Paint and Varnish		
1 1/2 in. Nipples, Assd. Lgths.				Wicking	Rubber Packing		
2 in. Nipples, Assd. Lgths.				Candles	Cloth		
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards	Rad. Tops		
3 in. Nipples, Assd. Lgths.				Foot Rests	Ash Can		
				Tools	Temporary Heat		
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R & L			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expense			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement			
Bushings				Registers, Borders or Gaskets			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron			
in. to in. Bushings				Bricks			
				Cement			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil			
1 1/2 in. Nipples, Assd. Lgths.				Wicking			
2 in. Nipples, Assd. Lgths.				Candles			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards			
3 in. Nipples, Assd. Lgths.				Foot Rests			
				Tools			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
Indirect Radiators											
Coils											
Valves											
		1/2 in.		Radiator Valves							
		3/4 in.		Radiator Valves							
		1 in.		Radiator Valves							
		1 1/4 in.		Radiator Valves							
		1 1/2 in.		Radiator Valves							
		2 in.		Radiator Valves							
Union Elbows											
		1/2 in.		Union Elbows							
		3/4 in.		Union Elbows							
		1 in.		Union Elbows							
		1 1/4 in.		Union Elbows							
		1 1/2 in.		Union Elbows							
		2 in.		Union Elbows							
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.				Offsets			
3/4 in. Galv. Tees, Mal.				Branch Headers			
1/2 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
3/4 in. Black Tees C. I.				Hangers			
1 in. Black Tees C. I.				Pipe Expansion			
1 1/4 in. Black Tees C. I.				Hook Plates			
1 1/2 in. Black Tees C. I.				Pipe Covering			
2 in. Black Tees C. I.				Pcs. or ft. 1 in. Pipe Covering			
2 1/2 in. Black Tees C. I.				Pcs. or ft. 1 1/4 in. Pipe Covering			
3 in. Black Tees C. I.				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
x x Reducing Tees							
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge								Floor Tubes			
Altitude Gauge								Bronzing Material			
Thermometer								Lbs.		Bronze	
Boiler Regulator								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
Coils								½ in. Blk. Elbows, C. I.			
								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1¼ in. Blk. Elbows, C. I.			
½ in.		Radiator Valves						1½ in. Blk. Elbows, C. I.			
¾ in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2½ in. Blk. Elbows, C. I.			
1¼ in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1½ in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
½ in.		Union Elbows									
¾ in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1¼ in.		Union Elbows						x			
1½ in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1¼ in. Blk. Elbows, C. I.			
								1½ in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2½ in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
½ in. Radiator Valves											
¾ in. Radiator Valves											
1 in. Radiator Valves											
1¼ in. Radiator Valves											
1½ in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
½ in. Union Elbows											
¾ in. Union Elbows											
1 in. Union Elbows								Reducing Elbows			
1¼ in. Union Elbows								x			
1½ in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?									Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation			
										Valves on Mains
										Automatic Air Valves
										Compression Air Valves
										Vacuum Valves
										Pressure Regulating Valves
										Check Valves Hose Bibbs
										Floor and Ceiling Plates
										1/2 in. 3/4 in.
										1 in. 1 1/4 in.
										1 1/2 in. 2 in.
										Floor Tubes
										Bronzing Material
										Lbs. Bronze
										Gals. Liquid
										Enamel
										Gal. Expansion Tank
										Heat Generator
										Heat Regulator
										Thermostat
										Pipe and Fittings
										Ft. 1/2 in. Galv. Pipe
										Ft. 3/4 in. Galv. Pipe
										Ft. 1/2 in. Black Pipe
										Ft. 3/4 in. Black Pipe
										Ft. 1 in. Black Pipe
										Ft. 1 1/4 in. Black Pipe
										Ft. 1 1/2 in. Black Pipe
										Ft. 2 in. Black Pipe
										Ft. 2 1/2 in. Black Pipe
										Ft. 3 in. Black Pipe
										Elbows
										1/2 in. Galv. Elbows, Mal.
										3/4 in. Galv. Elbows, Mal.
										1/2 in. Blk. Elbows, C. I.
										3/4 in. Blk. Elbows, C. I.
										1 in. Blk. Elbows, C. I.
										1 1/4 in. Blk. Elbows, C. I.
										1 1/2 in. Blk. Elbows, C. I.
										2 in. Blk. Elbows, C. I.
										2 1/2 in. Blk. Elbows, C. I.
										3 in. Blk. Elbows, C. I.
										R. & L. Elbows
										Reducing Elbows
										x
										x
										45 in. Elbows
										Carried Forward
										Carried Forward

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum		Valves		
								Pressure Regulating Valves				
								Check Valves		Hose Bibbs		
								Floor and Ceiling Plates				
								1/2 in.		3/4 in.		
								1 in.		1 1/4 in.		
								1 1/2 in.		2 in.		
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock												
Gauge												
Altitude Gauge												
Thermometer												
Boiler Regulator												
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows												
in. Smoke Pipe Tees												
in. Damper												
								Floor Tubes				
								Bronzing Material				
								Lbs.		Bronze		
								Gals.		Liquid		
										Enamel		
								Gal. Expansion Tank				
								Heat Generator				
								Heat Regulator				
								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.								
					Ft. 1/2 in. Galv. Pipe							
					Ft. 3/4 in. Galv. Pipe							
					Ft. 1/2 in. Black Pipe							
					Ft. 3/4 in. Black Pipe							
					Ft. 1 in. Black Pipe							
					Ft. 1 1/4 in. Black Pipe							
					Ft. 1 1/2 in. Black Pipe							
					Ft. 2 in. Black Pipe							
					Ft. 2 1/2 in. Black Pipe							
					Ft. 3 in. Black Pipe							
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @												
Indirect Radiators								Elbows				
								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
Coils								1/2 in. Blk. Elbows, C. I.				
								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
								1 1/4 in. Blk. Elbows, C. I.				
								1 1/2 in. Blk. Elbows, C. I.				
								2 in. Blk. Elbows, C. I.				
								2 1/2 in. Blk. Elbows, C. I.				
								3 in. Blk. Elbows, C. I.				
Union Elbows								R. & L. Elbows				
1/2 in. Union Elbows												
3/4 in. Union Elbows												
1 in. Union Elbows								Reducing Elbows				
1 1/4 in. Union Elbows								x				
1 1/2 in. Union Elbows								x				
2 in. Union Elbows								45 in. Elbows				
Carried Forward								Carried Forward				

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils											
Valves											
		1/2 in.		Radiator Valves							
		3/4 in.		Radiator Valves							
		1 in.		Radiator Valves							
		1 1/4 in.		Radiator Valves							
		1 1/2 in.		Radiator Valves							
		2 in.		Radiator Valves							
Union Elbows											
		1/2 in.		Union Elbows							
		3/4 in.		Union Elbows							
		1 in.		Union Elbows							
		1 1/4 in.		Union Elbows							
		1 1/2 in.		Union Elbows							
		2 in.		Union Elbows							
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves								R. & L. Elbows			
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								Reducing Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 1/2 in. Nipples, Assd. Lgths.				Candles Cloth			
3 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.				Offsets			
3/4 in. Galv. Tees, Mal.				Branch Headers			
1/2 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
3/4 in. Black Tees C. I.				Hangers			
1 in. Black Tees C. I.				Pipe Expansion			
1 1/4 in. Black Tees C. I.				Hook Plates			
1 1/2 in. Black Tees C. I.				Pipe Covering			
2 in. Black Tees C. I.				Pcs. or ft. 1 in. Pipe Covering			
2 1/2 in. Black Tees C. I.				Pcs. or ft. 1 1/4 in. Pipe Covering			
3 in. Black Tees C. I.				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
Plugs				Lumber			
1/2 in. 3/4 in. Plugs				Labor			
1 in. 1 1/4 in. Plugs				Carpenter Work			
1 1/2 in. 2 in. Plugs				Mason Work			
2 1/2 in. 3 in. Plugs				Sheet Metal Work			
Nipples				Steam Fitter and Helper			
1/2 in. Nipples, Assd. Lgths.				Extra Labor for Handling			
3/4 in. Nipples, Assd. Lgths.				Superintendence			
1 in. Nipples, Assd. Lgths.				Board			
1 1/4 in. Nipples, Assd. Lgths.				Carfare			
1 1/2 in. Nipples, Assd. Lgths.				Incidentals			
2 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
3 in. Nipples, Assd. Lgths.				Candles Cloth			
R. & L. Couplings				Rad. Boards Rad. Tops			
Unions and Flange Unions				Foot Rests Ash Can			
				Tools Temporary Heat			
				Insurance			
				Freight and Cartage			
				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum Valves				
								Pressure Regulating Valves				
								Check Valves Hose Bibbs				
								Floor and Ceiling Plates				
								1/2 in.		3/4 in.		
								1 in.		1 1/4 in.		
								1 1/2 in.		2 in.		
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock												
Gauge								Floor Tubes				
Altitude Gauge								Bronzing Material				
Thermometer								Lbs.		Bronze		
Boiler Regulator								Gals.		Liquid		
										Enamel		
								Gal. Expansion Tank				
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows								Heat Generator				
in. Smoke Pipe Tees								Heat Regulator				
in. Damper								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe			
									Ft. 3/4 in. Galv. Pipe			
									Ft. 1/2 in. Black Pipe			
									Ft. 3/4 in. Black Pipe			
									Ft. 1 in. Black Pipe			
									Ft. 1 1/4 in. Black Pipe			
									Ft. 1 1/2 in. Black Pipe			
									Ft. 2 in. Black Pipe			
									Ft. 2 1/2 in. Black Pipe			
									Ft. 3 in. Black Pipe			
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @								Elbows				
Indirect Radiators								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
Coils								1/2 in. Blk. Elbows, C. I.				
								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
Valves								1 1/4 in. Blk. Elbows, C. I.				
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.				
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.				
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.				
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.				
1 1/2 in.		Radiator Valves										
2 in.		Radiator Valves										
Union Elbows								R. & L. Elbows				
1/2 in.		Union Elbows										
3/4 in.		Union Elbows										
1 in.		Union Elbows						Reducing Elbows				
1 1/4 in.		Union Elbows						x				
1 1/2 in.		Union Elbows						x				
2 in.		Union Elbows						45 in. Elbows				
Carried Forward								Carried Forward				

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sec't's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?									Amount Forward									
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation											
								Valves on Mains										
								Automatic Air Valves										
								Compression Air Valves										
								Vacuum Valves										
								Pressure Regulating Valves										
								Check Valves		Hose Bibbs								
								Floor and Ceiling Plates										
								1/2 in.		3/4 in.								
								1 in.		1 1/4 in.								
								1 1/2 in.		2 in.								
Boiler																		
Lbs. Boiler Covering																		
Water Feed									Floor Tubes									
Blow-Off Cock									Bronzing Material									
Gauge									Lbs.		Bronze							
Altitude Gauge									Gals.		Liquid							
Thermometer																		
Boiler Regulator									Enamel									
									Gal. Expansion Tank									
Feet in. Smoke Pipe																		
in. Smoke Pipe Elbows													Heat Generator					
in. Smoke Pipe Tees													Heat Regulator					
in. Damper													Thermostat					
									Pipe and Fittings									
									Ft. 1/2 in. Galv. Pipe									
									Ft. 3/4 in. Galv. Pipe									
									Ft. 1/2 in. Black Pipe									
									Ft. 3/4 in. Black Pipe									
									Ft. 1 in. Black Pipe									
									Ft. 1 1/4 in. Black Pipe									
									Ft. 1 1/2 in. Black Pipe									
									Ft. 2 in. Black Pipe									
									Ft. 2 1/2 in. Black Pipe									
									Ft. 3 in. Black Pipe									
Total sq. ft. @																		
Total sq. ft. @																		
Total sq. ft. @																		
									Elbows									
Indirect Radiators									1/2 in. Galv. Elbows, Mal.									
									3/4 in. Galv. Elbows, Mal.									
									1/2 in. Blk. Elbows, C. I.									
Coils									3/4 in. Blk. Elbows, C. I.									
									1 in. Blk. Elbows, C. I.									
									1 1/4 in. Blk. Elbows, C. I.									
									1 1/2 in. Blk. Elbows, C. I.									
									2 in. Blk. Elbows, C. I.									
									2 1/2 in. Blk. Elbows, C. I.									
									3 in. Blk. Elbows, C. I.									
									R. & L. Elbows									
1/2 in. Union Elbows																		
3/4 in. Union Elbows																		
1 in. Union Elbows									Reducing Elbows									
1 1/4 in. Union Elbows									x									
1 1/2 in. Union Elbows									x									
2 in. Union Elbows									45 in. Elbows									
Carried Forward													Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge								Floor Tubes			
Altitude Gauge								Bronzing Material			
Thermometer								Lbs.		Bronze	
Boiler Regulator								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils											
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation	Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum Valves				
								Pressure Regulating Valves				
								Check Valves		Hose Bibbs		
								Floor and Ceiling Plates				
								1/2 in.	3/4 in.			
								1 in.	1 1/4 in.			
								1 1/2 in.	2 in.			
Boiler								Floor Tubes				
Lbs. Boiler Covering								Bronzing Material				
Water Feed								Lbs.		Bronze		
Blow-Off Cock								Gals.		Liquid		
Gauge								Enamel				
Altitude Gauge												
Thermometer												
Boiler Regulator												
Feet in. Smoke Pipe								Gal. Expansion Tank				
in. Smoke Pipe Elbows								Heat Generator				
in. Smoke Pipe Tees								Heat Regulator				
in. Damper								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sec't's in ea.	Hgt.	Pattern	Sq. Ft.	Ft. 1/2 in. Galv. Pipe							
					Ft. 3/4 in. Galv. Pipe							
					Ft. 1/2 in. Black Pipe							
					Ft. 3/4 in. Black Pipe							
					Ft. 1 in. Black Pipe							
					Ft. 1 1/4 in. Black Pipe							
					Ft. 1 1/2 in. Black Pipe							
					Ft. 2 in. Black Pipe							
					Ft. 2 1/2 in. Black Pipe							
					Ft. 3 in. Black Pipe							
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @												
Indirect Radiators								Elbows				
								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
Coils								1/2 in. Blk. Elbows, C. I.				
								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
Valves								1 1/4 in. Blk. Elbows, C. I.				
1/2 in.			Radiator Valves		1 1/2 in. Blk. Elbows, C. I.							
3/4 in.			Radiator Valves		2 in. Blk. Elbows, C. I.							
1 in.			Radiator Valves		2 1/2 in. Blk. Elbows, C. I.							
1 1/4 in.			Radiator Valves		3 in. Blk. Elbows, C. I.							
1 1/2 in.			Radiator Valves									
2 in.			Radiator Valves									
Union Elbows								R. & L. Elbows				
1/2 in.			Union Elbows									
3/4 in.			Union Elbows									
1 in.			Union Elbows		Reducing Elbows							
1 1/4 in.			Union Elbows		x							
1 1/2 in.			Union Elbows		x							
2 in.			Union Elbows		45 in. Elbows							
Carried Forward								Carried Forward				

MADE..... Amount Forward
 Pipe and Fittings—Cont'd.

STEAM..... VAPOR..... HOT WATER
 Amount Forward

191..... STEAM..... VAPOR..... HOT WATER
 Amount Forward

1/2 in. Galv. Tees, Mal.
 3/4 in. Galv. Tees, Mal.

1/2 in. Black Tees C. I.
 3/4 in. Black Tees C. I.
 1 in. Black Tees C. I.
 1 1/4 in. Black Tees C. I.
 1 1/2 in. Black Tees C. I.
 2 in. Black Tees C. I.
 2 1/2 in. Black Tees C. I.
 3 in. Black Tees C. I.

Reducing Tees
 Reducing Tees
 Reducing Tees
 Reducing Tees
 Reducing Tees
 Reducing Tees

Return Bends
 Return Bends R. & L.

Offsets

Branch Headers
 No. Outlets Size Outlets Size Run

Hangers
 Pipe
 Hook Plates Expansion

Pipe Covering
 Pcs. or ft. 1 in. Pipe Covering
 Pcs. or ft. 1 1/4 in. Pipe Covering
 Pcs. or ft. 1 1/2 in. Pipe Covering
 Pcs. or ft. 2 in. Pipe Covering
 Pcs. or ft. 2 1/2 in. Pipe Covering
 Pcs. or ft. 3 in. Pipe Covering

Miscellaneous Fittings
 Misc. Adapters/Connect. for Fittings
 Expansion, Headers or Sillies

Flanges
 Girth Pins
 Hooks
 Clamps
 Clamps

Clamps
 Clamps
 Clamps
 Clamps
 Clamps

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1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

1/2 in. Flanges
 3/4 in. Flanges
 1 in. Flanges
 1 1/4 in. Flanges
 1 1/2 in. Flanges
 2 in. Flanges
 2 1/2 in. Flanges
 3 in. Flanges

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum Valves				
								Pressure Regulating Valves				
								Check Valves Hose Bibbs				
								Floor and Ceiling Plates				
								1/2 in.		3/4 in.		
								1 in.		1 1/4 in.		
								1 1/2 in.		2 in.		
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock								Floor Tubes				
Gauge								Bronzing Material				
Altitude Gauge								Lbs.		Bronze		
Thermometer								Gals.		Liquid		
Boiler Regulator								Enamel				
								Gal. Expansion Tank				
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows								Heat Generator				
in. Smoke Pipe Tees								Heat Regulator				
in. Damper								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe			
									Ft. 3/4 in. Galv. Pipe			
									Ft. 1/2 in. Black Pipe			
									Ft. 3/4 in. Black Pipe			
									Ft. 1 in. Black Pipe			
									Ft. 1 1/4 in. Black Pipe			
									Ft. 1 1/2 in. Black Pipe			
									Ft. 2 in. Black Pipe			
									Ft. 2 1/2 in. Black Pipe			
									Ft. 3 in. Black Pipe			
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @												
Indirect Radiators								Elbows				
								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
								1/2 in. Blk. Elbows, C. I.				
Coils								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
Valves								1 1/4 in. Blk. Elbows, C. I.				
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.				
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.				
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.				
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.				
1 1/2 in.		Radiator Valves										
2 in.		Radiator Valves										
Union Elbows								R & L. Elbows				
1/2 in.		Union Elbows										
3/4 in.		Union Elbows										
1 in.		Union Elbows						Reducing Elbows				
1 1/4 in.		Union Elbows						x				
1 1/2 in.		Union Elbows						x				
2 in.		Union Elbows						45 in. Elbows				
Carried Forward								Carried Forward				

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1¼ in. Blk. Elbows, C. I.			
								1½ in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2½ in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
½ in. Union Elbows											
¾ in. Union Elbows											
1 in. Union Elbows											
1¼ in. Union Elbows								Reducing Elbows			
1½ in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
								Carried Forward			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
Coils											
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.				Offsets			
3/4 in. Galv. Tees, Mal.				Branch Headers			
1/2 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
3/4 in. Black Tees C. I.				Hangers			
1 in. Black Tees C. I.				Pipe Expansion			
1 1/4 in. Black Tees C. I.				Hook Plates			
1 1/2 in. Black Tees C. I.				Pipe Covering			
2 in. Black Tees C. I.				Pcs. or ft. 1 in. Pipe Covering			
2 1/2 in. Black Tees C. I.				Pcs. or ft. 1 1/4 in. Pipe Covering			
3 in. Black Tees C. I.				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
x x Reducing Tees							
x x Reducing Tees							
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
Plugs				Lumber			
1/2 in. 3/4 in. Plugs				Labor			
1 in. 1 1/4 in. Plugs				Carpenter Work			
1 1/2 in. 2 in. Plugs				Mason Work			
2 1/2 in. 3 in. Plugs				Sheet Metal Work			
Nipples				Steam Fitter and Helper			
1/2 in. Nipples, Assd. Lgths.				Extra Labor for Handling			
3/4 in. Nipples, Assd. Lgths.				Superintendence			
1 in. Nipples, Assd. Lgths.				Board			
1 1/4 in. Nipples, Assd. Lgths.				Carfare			
1 1/2 in. Nipples, Assd. Lgths.				Incidentals			
2 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
3 in. Nipples, Assd. Lgths.				Candles Cloth			
R. & L. Couplings				Rad. Boards Rad. Tops			
Unions and Flange Unions				Foot Rests Ash Can			
				Tools Temporary Heat			
				Insurance			
				Freight and Cartage			
				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.			
3/4 in. Radiator Valves								2 in. Blk. Elbows, C. I.			
1 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in. Radiator Valves								3 in. Blk. Elbows, C. I.			
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows								Reducing Elbows			
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator										Enamel	
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward									
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation										
								Valves on Mains									
								Automatic Air Valves									
								Compression Air Valves									
								Vacuum Valves									
								Pressure Regulating Valves									
								Check Valves				Hose Bibbs					
								Floor and Ceiling Plates									
								1/2 in.		3/4 in.							
								1 in.		1 1/4 in.							
								1 1/2 in.		2 in.							
Boiler																	
Lbs. Boiler Covering																	
Water Feed												Floor Tubes					
Blow-Off Cock												Bronzing Material					
Gauge												Lbs.		Bronze			
Altitude Gauge												Gals.		Liquid			
Thermometer												Enamel					
Boiler Regulator																	
Feet in. Smoke Pipe												Gal. Expansion Tank					
in. Smoke Pipe Elbows												Heat Generator					
in. Smoke Pipe Tees												Heat Regulator					
in. Damper												Thermostat					
Radiators												Pipe and Fittings					
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe								
									Ft. 3/4 in. Galv. Pipe								
									Ft. 1/2 in. Black Pipe								
									Ft. 3/4 in. Black Pipe								
									Ft. 1 in. Black Pipe								
									Ft. 1 1/4 in. Black Pipe								
									Ft. 1 1/2 in. Black Pipe								
									Ft. 2 in. Black Pipe								
									Ft. 2 1/2 in. Black Pipe								
									Ft. 3 in. Black Pipe								
Total sq. ft. @																	
Total sq. ft. @																	
Total sq. ft. @												Elbows					
Indirect Radiators												1/2 in. Galv. Elbows, Mal.					
												3/4 in. Galv. Elbows, Mal.					
Coils												1/2 in. Blk. Elbows, C. I.					
												3/4 in. Blk. Elbows, C. I.					
												1 in. Blk. Elbows, C. I.					
Valves												1 1/4 in. Blk. Elbows, C. I.					
1/2 in.		Radiator Valves										1 1/2 in. Blk. Elbows, C. I.					
3/4 in.		Radiator Valves										2 in. Blk. Elbows, C. I.					
1 in.		Radiator Valves										2 1/2 in. Blk. Elbows, C. I.					
1 1/4 in.		Radiator Valves										3 in. Blk. Elbows, C. I.					
1 1/2 in.		Radiator Valves															
2 in.		Radiator Valves															
Union Elbows												R. & L. Elbows					
1/2 in.		Union Elbows															
3/4 in.		Union Elbows															
1 in.		Union Elbows										Reducing Elbows					
1 1/4 in.		Union Elbows										x					
1 1/2 in.		Union Elbows										x					
2 in.		Union Elbows										45 in. Elbows					
Carried Forward												Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum	Valves
								Pressure Regulating Valves	
								Check Valves	Hose Bibbs
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed									
Blow-Off Cock								Floor Tubes	
Gauge								Bronzing Material	
Altitude Gauge								Lbs.	Bronze
Thermometer								Gals.	Liquid
Boiler Regulator								Enamel	
Feet in. Smoke Pipe								Gal. Expansion Tank	
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
Radiators								Pipe and Fittings	
No. of Rads.	Sect's in. sq.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe	
								Ft. 3/4 in. Galv. Pipe	
								Ft. 1/2 in. Black Pipe	
								Ft. 3/4 in. Black Pipe	
								Ft. 1 in. Black Pipe	
								Ft. 1 1/4 in. Black Pipe	
								Ft. 1 1/2 in. Black Pipe	
								Ft. 2 in. Black Pipe	
								Ft. 2 1/2 in. Black Pipe	
								Ft. 3 in. Black Pipe	
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @								Elbows	
Indirect Radiators								1/2 in. Galv. Elbows, Mal.	
Coils								3/4 in. Galv. Elbows, Mal.	
Valves								1/2 in. Blk. Elbows, C. I.	
1/2 in. Radiator Valves								3/4 in. Blk. Elbows, C. I.	
3/4 in. Radiator Valves								1 in. Blk. Elbows, C. I.	
1 in. Radiator Valves								1 1/4 in. Blk. Elbows, C. I.	
1 1/4 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.	
1 1/2 in. Radiator Valves								2 in. Blk. Elbows, C. I.	
2 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.	
Union Elbows								3 in. Blk. Elbows, C. I.	
1/2 in. Union Elbows								R. & L. Elbows	
3/4 in. Union Elbows								Reducing Elbows	
1 in. Union Elbows								x	
1 1/4 in. Union Elbows								x	
1 1/2 in. Union Elbows								45 in. Elbows	
2 in. Union Elbows									
Carried Forward								Carried	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows								Reducing Elbows			
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
Nipples				Extra Labor for Handling			
1/2 in. Nipples, Assd. Lgths.				Superintendence			
3/4 in. Nipples, Assd. Lgths.				Board			
1 in. Nipples, Assd. Lgths.				Carfare			
1 1/4 in. Nipples, Assd. Lgths.				Incidentals			
1 1/2 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 1/2 in. Nipples, Assd. Lgths.				Candles Cloth			
3 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?											
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation	Amount Forward			
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
Coils											
Valves											
½ in.		Radiator Valves									
¾ in.		Radiator Valves									
1 in.		Radiator Valves									
1¼ in.		Radiator Valves									
1½ in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
½ in.		Union Elbows									
¾ in.		Union Elbows									
1 in.		Union Elbows									
1¼ in.		Union Elbows									
1½ in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.							
					Ft. 1/2 in. Galv. Pipe						
					Ft. 3/4 in. Galv. Pipe						
					Ft. 1/2 in. Black Pipe						
					Ft. 3/4 in. Black Pipe						
					Ft. 1 in. Black Pipe						
					Ft. 1 1/4 in. Black Pipe						
					Ft. 1 1/2 in. Black Pipe						
					Ft. 2 in. Black Pipe						
					Ft. 2 1/2 in. Black Pipe						
					Ft. 3 in. Black Pipe						
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.			
3/4 in. Radiator Valves								2 in. Blk. Elbows, C. I.			
1 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in. Radiator Valves								3 in. Blk. Elbows, C. I.			
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows								Reducing Elbows			
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/4 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum Valves	
								Pressure Regulating Valves	
								Check Valves Hose Bibbs	
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed								Floor Tubes	
Blow-Off Cock								Bronzing Material	
Gauge								Lbs.	Bronze
Altitude Gauge								Gals.	Liquid
Thermometer									Enamel
Boiler Regulator									
								Gal. Expansion Tank	
Feet in. Smoke Pipe									
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
								Pipe and Fittings	
								Ft. 1/2 in. Galv. Pipe	
								Ft. 3/4 in. Galv. Pipe	
								Ft. 1/2 in. Black Pipe	
								Ft. 3/4 in. Black Pipe	
								Ft. 1 in. Black Pipe	
								Ft. 1 1/4 in. Black Pipe	
								Ft. 1 1/2 in. Black Pipe	
								Ft. 2 in. Black Pipe	
								Ft. 2 1/2 in. Black Pipe	
								Ft. 3 in. Black Pipe	
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @									
Indirect Radiators								Elbows	
								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
								1 1/4 in. Blk. Elbows, C. I.	
								1 1/2 in. Blk. Elbows, C. I.	
								2 in. Blk. Elbows, C. I.	
								2 1/2 in. Blk. Elbows, C. I.	
								3 in. Blk. Elbows, C. I.	
Union Elbows								R. & L. Elbows	
1/2 in. Union Elbows									
3/4 in. Union Elbows									
1 in. Union Elbows								Reducing Elbows	
1 1/4 in. Union Elbows								x	
1 1/2 in. Union Elbows								x	
2 in. Union Elbows								45 in. Elbows	
Carried Forward								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
½ in. Black Tees C. I.				Offsets			
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum Valves	
								Pressure Regulating Valves	
								Check Valves Hose Bibbs	
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed									
Blow-Off Cock									
Gauge									
Altitude Gauge									
Thermometer									
Boiler Regulator									
Feet in. Smoke Pipe									
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
Radiators									
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					
					Ft. 1/2 in. Galv. Pipe				
					Ft. 3/4 in. Galv. Pipe				
					Ft. 1/2 in. Black Pipe				
					Ft. 3/4 in. Black Pipe				
					Ft. 1 in. Black Pipe				
					Ft. 1 1/4 in. Black Pipe				
					Ft. 1 1/2 in. Black Pipe				
					Ft. 2 in. Black Pipe				
					Ft. 2 1/2 in. Black Pipe				
					Ft. 3 in. Black Pipe				
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @									
Indirect Radiators									
Coils								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
								1 1/4 in. Blk. Elbows, C. I.	
								1 1/2 in. Blk. Elbows, C. I.	
								2 in. Blk. Elbows, C. I.	
								2 1/2 in. Blk. Elbows, C. I.	
								3 in. Blk. Elbows, C. I.	
Valves									
1/2 in. Radiator Valves									
3/4 in. Radiator Valves									
1 in. Radiator Valves									
1 1/4 in. Radiator Valves									
1 1/2 in. Radiator Valves									
2 in. Radiator Valves									
Union Elbows								R. & L. Elbows	
1/2 in. Union Elbows									
3/4 in. Union Elbows									
1 in. Union Elbows								Reducing Elbows	
1 1/4 in. Union Elbows								x	
1 1/2 in. Union Elbows								x	
2 in. Union Elbows								45 in. Elbows	
Carried Forward								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.				Offsets			
3/4 in. Galv. Tees, Mal.				Branch Headers			
1/2 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
3/4 in. Black Tees C. I.				Hangers			
1 in. Black Tees C. I.				Pipe Expansion			
1 1/4 in. Black Tees C. I.				Hook Plates			
1 1/2 in. Black Tees C. I.				Pipe Covering			
2 in. Black Tees C. I.				Pcs. or ft. 1 in. Pipe Covering			
2 1/2 in. Black Tees C. I.				Pcs. or ft. 1 1/4 in. Pipe Covering			
3 in. Black Tees C. I.				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
x x Reducing Tees							
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
Plugs				Lumber			
1/2 in. 3/4 in. Plugs				Labor			
1 in. 1 1/4 in. Plugs				Carpenter Work			
1 1/2 in. 2 in. Plugs				Mason Work			
2 1/2 in. 3 in. Plugs				Sheet Metal Work			
Nipples				Steam Fitter and Helper			
1/2 in. Nipples, Assd. Lgths.				Extra Labor for Handling			
3/4 in. Nipples, Assd. Lgths.				Superintendence			
1 in. Nipples, Assd. Lgths.				Board			
1 1/4 in. Nipples, Assd. Lgths.				Carfare			
1 1/2 in. Nipples, Assd. Lgths.				Incidentals			
2 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
3 in. Nipples, Assd. Lgths.				Candles Cloth			
R. & L. Couplings				Rad. Boards Rad. Tops			
Unions and Flange Unions				Foot Rests Ash Can			
				Tools Temporary Heat			
				Insurance			
				Freight and Cartage			
				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum Valves	
								Pressure Regulating Valves	
								Check Valves Hose Bibbs	
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed								Floor Tubes	
Blow-Off Cock								Bronzing Material	
Gauge								Lbs.	Bronze
Altitude Gauge								Gals.	Liquid
Thermometer								Enamel	
Boiler Regulator									
Feet in. Smoke Pipe								Gal. Expansion Tank	
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
Radiators								Pipe and Fittings	
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.			Ft. 1/2 in. Galv. Pipe		
							Ft. 3/4 in. Galv. Pipe		
							Ft. 1/2 in. Black Pipe		
							Ft. 3/4 in. Black Pipe		
							Ft. 1 in. Black Pipe		
							Ft. 1 1/4 in. Black Pipe		
							Ft. 1 1/2 in. Black Pipe		
							Ft. 2 in. Black Pipe		
							Ft. 2 1/2 in. Black Pipe		
							Ft. 3 in. Black Pipe		
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @								Elbows	
Indirect Radiators								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
Coils								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
Valves								1 1/4 in. Blk. Elbows, C. I.	
1/2 in.			Radiator Valves				1 1/2 in. Blk. Elbows, C. I.		
3/4 in.			Radiator Valves				2 in. Blk. Elbows, C. I.		
1 in.			Radiator Valves				2 1/2 in. Blk. Elbows, C. I.		
1 1/4 in.			Radiator Valves				3 in. Blk. Elbows, C. I.		
1 1/2 in.			Radiator Valves						
2 in.			Radiator Valves						
Union Elbows								R. & L. Elbows	
1/2 in.			Union Elbows						
3/4 in.			Union Elbows						
1 in.			Union Elbows				Reducing Elbows		
1 1/4 in.			Union Elbows				x		
1 1/2 in.			Union Elbows				x		
2 in.			Union Elbows				45 in. Elbows		
Carried Forward								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
Coils											
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
Coils											
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum Valves	
								Pressure Regulating Valves	
								Check Valves	
								Hose Bibbs	
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed									
Blow-Off Cock									
Gauge								Floor Tubes	
Altitude Gauge								Bronzing Material	
Thermometer								Lbs. Bronze	
Boiler Regulator								Gals. Liquid	
								Enamel	
Feet in. Smoke Pipe								Gal. Expansion Tank	
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
Radiators								Pipe and Fittings	
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					
					Ft. 1/2 in. Galv. Pipe				
					Ft. 3/4 in. Galv. Pipe				
					Ft. 1/2 in. Black Pipe				
					Ft. 3/4 in. Black Pipe				
					Ft. 1 in. Black Pipe				
					Ft. 1 1/4 in. Black Pipe				
					Ft. 1 1/2 in. Black Pipe				
					Ft. 2 in. Black Pipe				
					Ft. 2 1/2 in. Black Pipe				
					Ft. 3 in. Black Pipe				
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @									
Indirect Radiators								Elbows	
								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
Coils								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
Valves								1 1/4 in. Blk. Elbows, C. I.	
1/2 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.	
3/4 in. Radiator Valves								2 in. Blk. Elbows, C. I.	
1 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.	
1 1/4 in. Radiator Valves								3 in. Blk. Elbows, C. I.	
1 1/2 in. Radiator Valves									
2 in. Radiator Valves									
Union Elbows								R. & L. Elbows	
1/2 in. Union Elbows									
3/4 in. Union Elbows									
1 in. Union Elbows								Reducing Elbows	
1 1/4 in. Union Elbows								x	
1 1/2 in. Union Elbows								x	
2 in. Union Elbows								45 in. Elbows	
Carried Forward								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge								Floor Tubes			
Altitude Gauge								Bronzing Material			
Thermometer								Lbs.		Bronze	
Boiler Regulator								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe		
									Ft. 3/4 in. Galv. Pipe		
									Ft. 1/2 in. Black Pipe		
									Ft. 3/4 in. Black Pipe		
									Ft. 1 in. Black Pipe		
									Ft. 1 1/4 in. Black Pipe		
									Ft. 1 1/2 in. Black Pipe		
									Ft. 2 in. Black Pipe		
									Ft. 2 1/2 in. Black Pipe		
									Ft. 3 in. Black Pipe		
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in.							
3/4 in.							
1/2 in.				Offsets			
3/4 in.				Branch Headers			
1 in.				No. Outlets Size Outlets Size Run			
1 1/4 in.							
				Hangers			
1 1/2 in.							
				Pipe Expansion			
2 in.							
				Hook Plates			
2 1/2 in.							
3 in.				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x	x		Reducing Tees	Pcs. or ft. 1 1/4 in. Pipe Covering			
x	x		Reducing Tees	Pcs. or ft. 1 1/2 in. Pipe Covering			
x	x		Reducing Tees	Pcs. or ft. 2 in. Pipe Covering			
x	x		Reducing Tees	Pcs. or ft. 2 1/2 in. Pipe Covering			
x	x		Reducing Tees	Pcs. or ft. 3 in. Pipe Covering			
x	x		Reducing Tees				
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to			in. Bushings	x			
in. to			in. Bushings	x			
in. to			in. Bushings	x			
in. to			in. Bushings	Sundries			
in. to			in. Bushings	Galv. Iron Tin			
in. to			in. Bushings	Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in.	3/4 in.		Plugs	Carpenter Work			
1 in.	1 1/4 in.		Plugs	Mason Work			
1 1/2 in.	2 in.		Plugs	Sheet Metal Work			
2 1/2 in.	3 in.		Plugs	Steam Fitter and Helper			
Nipples				Extra Labor for Handling			
1/2 in.			Nipples, Assd. Lgths.	Superintendence			
3/4 in.			Nipples, Assd. Lgths.	Board			
1 in.			Nipples, Assd. Lgths.	Carfare			
1 1/4 in.			Nipples, Assd. Lgths.	Incidentals			
1 1/2 in.			Nipples, Assd. Lgths.	Oil Paint and Varnish			
2 in.			Nipples, Assd. Lgths.	Wicking Rubber Packing			
2 1/2 in.			Nipples, Assd. Lgths.	Candles Cloth			
3 in.			Nipples, Assd. Lgths.	Rad. Boards Rad. Tops			
				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves								R. & L. Elbows			
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								Reducing Elbows			
1/2 in. Union Elbows								x			
3/4 in. Union Elbows								x			
1 in. Union Elbows											
1 1/4 in. Union Elbows											
1 1/2 in. Union Elbows											
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward					
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation						
								Valves on Mains					
								Automatic Air Valves					
								Compression Air Valves					
								Vacuum Valves					
								Pressure Regulating Valves					
								Check Valves Hose Bibbs					
								Floor and Ceiling Plates					
								1/2 in.		3/4 in.			
								1 in.		1 1/4 in.			
								1 1/2 in.		2 in.			
								Boiler					
								Lbs. Boiler Covering					
								Water Feed					
								Blow-Off Cock					
								Gauge					
								Altitude Gauge					
								Thermometer					
								Boiler Regulator					
								Feet in. Smoke Pipe					
								in. Smoke Pipe Elbows					
								in. Smoke Pipe Tees					
								in. Damper					
								Floor Tubes					
								Bronzing Material					
								Lbs.		Bronze			
								Gals.		Liquid			
								Enamel					
								Gal. Expansion Tank					
								Heat Generator					
								Heat Regulator					
								Thermostat					
								Pipe and Fittings					
								Ft. 1/2 in. Galv. Pipe					
								Ft. 3/4 in. Galv. Pipe					
								Ft. 1/2 in. Black Pipe					
								Ft. 3/4 in. Black Pipe					
								Ft. 1 in. Black Pipe					
								Ft. 1 1/4 in. Black Pipe					
								Ft. 1 1/2 in. Black Pipe					
								Ft. 2 in. Black Pipe					
								Ft. 2 1/2 in. Black Pipe					
								Ft. 3 in. Black Pipe					
								Total sq. ft. @					
								Total sq. ft. @					
								Total sq. ft. @					
								Indirect Radiators					
								Coils					
								Valves					
								1/2 in.		Radiator Valves			
								3/4 in.		Radiator Valves			
								1 in.		Radiator Valves			
								1 1/4 in.		Radiator Valves			
								1 1/2 in.		Radiator Valves			
								2 in.		Radiator Valves			
								Union Elbows					
								1/2 in.		Union Elbows			
								3/4 in.		Union Elbows			
								1 in.		Union Elbows			
								1 1/4 in.		Union Elbows			
								1 1/2 in.		Union Elbows			
								2 in.		Union Elbows			
								R. & L. Elbows					
								Reducing Elbows					
								x					
								x					
								45 in. Elbows					
								Carried Forward					
								Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
Radiators											
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.							
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
								Indirect Radiators			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
								R. & L. Elbows			
								1/2 in. Union Elbows			
								3/4 in. Union Elbows			
								1 in. Union Elbows			
								1 1/4 in. Union Elbows			
								1 1/2 in. Union Elbows			
								2 in. Union Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves		Hose Bibbs	
								Floor and Ceiling Plates			
								1/2 in.	3/4 in.		
								1 in.	1 1/4 in.		
								1 1/2 in.	2 in.		
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
										Heat Generator	
										Heat Regulator	
										Thermostat	
Radiators											
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
Indirect Radiators											
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
								R. & L. Elbows			
								1/2 in. Radiator Valves			
								3/4 in. Radiator Valves			
								1 in. Radiator Valves			
								1 1/4 in. Radiator Valves			
								1 1/2 in. Radiator Valves			
								2 in. Radiator Valves			
Union Elbows											
								1/2 in. Union Elbows			
								3/4 in. Union Elbows			
								1 in. Union Elbows			
								1 1/4 in. Union Elbows			
								1 1/2 in. Union Elbows			
								2 in. Union Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
								Carried Forward			
								Carried Forward			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
								Carried Forward			
								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
				Moulded Fittings			
Crosses							
				Lbs. Asbestos Cement for Fittings			
Y's							
				Registers, Borders or Grilles			
Bushings							
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

HEATING ESTIMATE FOR Mr.

Steam or Water?									Amount Forward						
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation								
										Valves on Mains					
										Automatic Air Valves					
										Compression Air Valves					
										Vacuum Valves					
										Pressure Regulating Valves					
										Check Valves				Hose Bibbs	
										Floor and Ceiling Plates					
										1/2 in.				3/4 in.	
										1 in.				1 1/4 in.	
										1 1/2 in.				2 in.	
										Floor Tubes					
										Bronzing Material					
										Lbs.				Bronze	
										Gals.				Liquid	
														Enamel	
										Gal. Expansion Tank					
										Heat Generator					
										Heat Regulator					
										Thermostat					
										Pipe and Fittings					
										Ft. 1/2 in. Galv. Pipe					
										Ft. 3/4 in. Galv. Pipe					
										Ft. 1/2 in. Black Pipe					
										Ft. 3/4 in. Black Pipe					
										Ft. 1 in. Black Pipe					
										Ft. 1 1/4 in. Black Pipe					
										Ft. 1 1/2 in. Black Pipe					
										Ft. 2 in. Black Pipe					
										Ft. 2 1/2 in. Black Pipe					
										Ft. 3 in. Black Pipe					
										Elbows					
										1/2 in. Galv. Elbows, Mal.					
										3/4 in. Galv. Elbows, Mal.					
										1/2 in. Blk. Elbows, C. I.					
										3/4 in. Blk. Elbows, C. I.					
										1 in. Blk. Elbows, C. I.					
										1 1/4 in. Blk. Elbows, C. I.					
										1 1/2 in. Blk. Elbows, C. I.					
										2 in. Blk. Elbows, C. I.					
										2 1/2 in. Blk. Elbows, C. I.					
										3 in. Blk. Elbows, C. I.					
										R. & L. Elbows					
										Reducing Elbows					
										x					
										x					
										45 in. Elbows					
										Carried Forward					
										Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
								Boiler			
								Lbs. Boiler Covering			
								Water Feed			
								Blow-Off Cock			
								Gauge			
								Altitude Gauge			
								Thermometer			
								Boiler Regulator			
								Feet in. Smoke Pipe			
								in. Smoke Pipe Elbows			
								in. Smoke Pipe Tees			
								in. Damper			
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
								Indirect Radiators			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
								R. & L. Elbows			
								1/2 in. Union Elbows			
								3/4 in. Union Elbows			
								1 in. Union Elbows			
								1 1/4 in. Union Elbows			
								1 1/2 in. Union Elbows			
								2 in. Union Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
								Carried Forward			
								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
				Cement Nails			
Caps				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils											
Valves											
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings							
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves								R. & L. Elbows			
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								Reducing Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings							
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum		Valves		
								Pressure Regulating Valves				
								Check Valves		Hose Bibbs		
								Floor and Ceiling Plates				
								1/2 in.	3/4 in.			
								1 in.	1 1/4 in.			
								1 1/2 in.	2 in.			
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock								Floor Tubes				
Gauge								Bronzing Material				
Altitude Gauge								Lbs.		Bronze		
Thermometer								Gals.		Liquid		
Boiler Regulator								Enamel				
								Gal. Expansion Tank				
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows								Heat Generator				
in. Smoke Pipe Tees								Heat Regulator				
in. Damper								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe			
									Ft. 3/4 in. Galv. Pipe			
									Ft. 1/2 in. Black Pipe			
									Ft. 3/4 in. Black Pipe			
									Ft. 1 in. Black Pipe			
									Ft. 1 1/4 in. Black Pipe			
									Ft. 1 1/2 in. Black Pipe			
									Ft. 2 in. Black Pipe			
									Ft. 2 1/2 in. Black Pipe			
									Ft. 3 in. Black Pipe			
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @												
Indirect Radiators								Elbows				
								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
								1/2 in. Blk. Elbows, C. I.				
Coils								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
								1 1/4 in. Blk. Elbows, C. I.				
Valves								1 1/2 in. Blk. Elbows, C. I.				
1/2 in.		Radiator Valves						2 in. Blk. Elbows, C. I.				
3/4 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.				
1 in.		Radiator Valves						3 in. Blk. Elbows, C. I.				
1 1/4 in.		Radiator Valves										
1 1/2 in.		Radiator Valves										
2 in.		Radiator Valves										
Union Elbows								R. & L. Elbows				
1/2 in.		Union Elbows										
3/4 in.		Union Elbows										
1 in.		Union Elbows						Reducing Elbows				
1 1/4 in.		Union Elbows						x				
1 1/2 in.		Union Elbows						x				
2 in.		Union Elbows						45 in. Elbows				
Carried Forward								Carried Forward				

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
Coils								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1¼ in. Blk. Elbows, C. I.			
								1½ in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2½ in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves								R. & L. Elbows			
½ in. Radiator Valves											
¾ in. Radiator Valves											
1 in. Radiator Valves											
1¼ in. Radiator Valves											
1½ in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								Reducing Elbows			
½ in. Union Elbows											
¾ in. Union Elbows											
1 in. Union Elbows											
1¼ in. Union Elbows								x			
1½ in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils											
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward					
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation						
								Valves on Mains					
								Automatic Air Valves					
								Compression Air Valves					
								Vacuum Valves					
								Pressure Regulating Valves					
								Check Valves Hose Bibbs					
								Floor and Ceiling Plates					
								1/2 in.		3/4 in.			
								1 in.		1 1/4 in.			
								1 1/2 in.		2 in.			
								Floor Tubes					
								Bronzing Material					
								Lbs.		Bronze			
								Gals.		Liquid			
								Enamel					
								Gal. Expansion Tank					
								Heat Generator					
								Heat Regulator					
								Thermostat					
								Pipe and Fittings					
								Ft. 1/2 in. Galv. Pipe					
								Ft. 3/4 in. Galv. Pipe					
								Ft. 1/2 in. Black Pipe					
								Ft. 3/4 in. Black Pipe					
								Ft. 1 in. Black Pipe					
								Ft. 1 1/4 in. Black Pipe					
								Ft. 1 1/2 in. Black Pipe					
								Ft. 2 in. Black Pipe					
								Ft. 2 1/2 in. Black Pipe					
								Ft. 3 in. Black Pipe					
								Total sq. ft. @					
								Total sq. ft. @					
								Total sq. ft. @					
								Indirect Radiators					
								Coils					
								Valves					
								1/2 in. Radiator Valves		1 1/2 in. Blk. Elbows, C. I.			
								3/4 in. Radiator Valves		2 in. Blk. Elbows, C. I.			
								1 in. Radiator Valves		2 1/2 in. Blk. Elbows, C. I.			
								1 1/4 in. Radiator Valves		3 in. Blk. Elbows, C. I.			
								1 1/2 in. Radiator Valves					
								2 in. Radiator Valves					
								Union Elbows					
								1/2 in. Union Elbows					
								3/4 in. Union Elbows					
								1 in. Union Elbows		Reducing Elbows			
								1 1/4 in. Union Elbows		x			
								1 1/2 in. Union Elbows		x			
								2 in. Union Elbows		45 in. Elbows			
								Carried Forward					
								Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE 191 STEAM VAPOR HOT WATER

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward					
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation						
								Valves on Mains					
								Automatic Air Valves					
								Compression Air Valves					
								Vacuum Valves					
								Pressure Regulating Valves					
								Check Valves Hose Bibbs					
								Floor and Ceiling Plates					
								1/2 in.		3/4 in.			
								1 in.		1 1/4 in.			
								1 1/2 in.		2 in.			
Boiler													
Lbs. Boiler Covering													
Water Feed													
Blow-Off Cock													
Gauge													
Altitude Gauge													
Thermometer													
Boiler Regulator													
Feet in. Smoke Pipe													
in. Smoke Pipe Elbows													
in. Smoke Pipe Tees													
in. Damper													
Floor Tubes													
Bronzing Material													
Lbs.								Bronze					
Gals.								Liquid					
Enamel													
Gal. Expansion Tank													
Heat Generator													
Heat Regulator													
Thermostat													
Pipe and Fittings													
Ft. 1/2 in. Galv. Pipe													
Ft. 3/4 in. Galv. Pipe													
Ft. 1/2 in. Black Pipe													
Ft. 3/4 in. Black Pipe													
Ft. 1 in. Black Pipe													
Ft. 1 1/4 in. Black Pipe													
Ft. 1 1/2 in. Black Pipe													
Ft. 2 in. Black Pipe													
Ft. 2 1/2 in. Black Pipe													
Ft. 3 in. Black Pipe													
Total sq. ft. @													
Total sq. ft. @													
Total sq. ft. @													
Indirect Radiators													
1/2 in. Galv. Elbows, Mal.													
3/4 in. Galv. Elbows, Mal.													
Coils													
1/2 in. Blk. Elbows, C. I.													
3/4 in. Blk. Elbows, C. I.													
1 in. Blk. Elbows, C. I.													
Valves													
1/2 in. Radiator Valves													
3/4 in. Radiator Valves													
1 in. Radiator Valves													
1 1/4 in. Radiator Valves													
1 1/2 in. Radiator Valves													
2 in. Radiator Valves													
Union Elbows													
1/2 in. Union Elbows													
3/4 in. Union Elbows													
1 in. Union Elbows													
1 1/4 in. Union Elbows													
1 1/2 in. Union Elbows													
2 in. Union Elbows													
R. & L. Elbows													
Reducing Elbows													
x													
x													
45 in. Elbows													
Carried Forward								Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
										Enamel	
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
								Total sq. ft. @			
								Total sq. ft. @			
								Total sq. ft. @			
								Indirect Radiators			
								Coils			
								Valves			
								1/2 in. Radiator Valves		1 1/2 in. Blk. Elbows, C. I.	
								3/4 in. Radiator Valves		2 in. Blk. Elbows, C. I.	
								1 in. Radiator Valves		2 1/2 in. Blk. Elbows, C. I.	
								1 1/4 in. Radiator Valves		3 in. Blk. Elbows, C. I.	
								1 1/2 in. Radiator Valves			
								2 in. Radiator Valves			
								Union Elbows			
								1/2 in. Union Elbows			
								3/4 in. Union Elbows			
								1 in. Union Elbows		Reducing Elbows	
								1 1/4 in. Union Elbows		x	
								1 1/2 in. Union Elbows		x	
								2 in. Union Elbows		45 in. Elbows	
								Carried Forward			
								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in.							
				Offsets			
3/4 in.							
1/2 in.				Branch Headers			
3/4 in.							
1 in.				No. Outlets Size Outlets Size Run			
1 1/4 in.							
1 1/2 in.				Hangers			
2 in.				Pipe Expansion			
2 1/2 in.				Hook Plates			
3 in.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x	x	Reducing Tees		Pcs. or ft. 1 1/4 in. Pipe Covering			
x	x	Reducing Tees		Pcs. or ft. 1 1/2 in. Pipe Covering			
x	x	Reducing Tees		Pcs. or ft. 2 in. Pipe Covering			
x	x	Reducing Tees		Pcs. or ft. 2 1/2 in. Pipe Covering			
x	x	Reducing Tees		Pcs. or ft. 3 in. Pipe Covering			
x	x	Reducing Tees					
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to	in.	Bushings		x			
in. to	in.	Bushings		x			
in. to	in.	Bushings		x			
in. to	in.	Bushings		Sundries			
in. to	in.	Bushings		Galv. Iron Tin			
in. to	in.	Bushings		Bricks Sand			
Caps				Cement Nails			
Plugs				Lumber			
1/2 in.	3/4 in.	Plugs		Labor			
1 in.	1 1/4 in.	Plugs		Carpenter Work			
1 1/2 in.	2 in.	Plugs		Mason Work			
2 1/2 in.	3 in.	Plugs		Sheet Metal Work			
Nipples				Steam Fitter and Helper			
1/2 in.		Nipples, Assd. Lgths.		Extra Labor for Handling			
3/4 in.		Nipples, Assd. Lgths.		Superintendence			
1 in.		Nipples, Assd. Lgths.		Board			
1 1/4 in.		Nipples, Assd. Lgths.		Carfare			
1 1/2 in.		Nipples, Assd. Lgths.		Incidentals			
2 in.		Nipples, Assd. Lgths.		Oil Paint and Varnish			
2 1/2 in.		Nipples, Assd. Lgths.		Wicking Rubber Packing			
3 in.		Nipples, Assd. Lgths.		Candles Cloth			
R. & L. Couplings				Rad. Boards Rad. Tops			
Unions and Flange Unions				Foot Rests Ash Can			
				Tools Temporary Heat			
				Insurance			
				Freight and Cartage			
				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils								R. & L. Elbows			
Valves											
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								Reducing Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
Coils											
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves											
1/2 in. Radiator Valves								1 1/4 in. Blk. Elbows, C. I.			
3/4 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.			
1 in. Radiator Valves								2 in. Blk. Elbows, C. I.			
1 1/4 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.			
1 1/2 in. Radiator Valves								3 in. Blk. Elbows, C. I.			
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
Radiators											
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.							
								Heat Generator			
								Heat Regulator			
								Thermostat			
Indirect Radiators											
Coils											
Valves											
½ in. Radiator Valves											
¾ in. Radiator Valves											
1 in. Radiator Valves											
1¼ in. Radiator Valves											
1½ in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows											
½ in. Union Elbows											
¾ in. Union Elbows											
1 in. Union Elbows											
1¼ in. Union Elbows											
1½ in. Union Elbows											
2 in. Union Elbows											
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum		Valves	
								Pressure Regulating Valves			
								Check Valves		Hose Bibbs	
								Floor and Ceiling Plates			
								1/2 in.	3/4 in.		
								1 in.	1 1/4 in.		
								1 1/2 in.	2 in.		
Boiler											
Lbs. Boiler Covering											
Water Feed								Floor Tubes			
Blow-Off Cock								Bronzing Material			
Gauge								Lbs.		Bronze	
Altitude Gauge								Gals.		Liquid	
Thermometer								Enamel			
Boiler Regulator											
Feet in. Smoke Pipe								Gal. Expansion Tank			
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sec's in ea.	Hgt.	Pattern	Sq. Ft.	Ft. 1/2 in. Galv. Pipe						
					Ft. 3/4 in. Galv. Pipe						
					Ft. 1/2 in. Black Pipe						
					Ft. 3/4 in. Black Pipe						
					Ft. 1 in. Black Pipe						
					Ft. 1 1/4 in. Black Pipe						
					Ft. 1 1/2 in. Black Pipe						
					Ft. 2 in. Black Pipe						
					Ft. 2 1/2 in. Black Pipe						
					Ft. 3 in. Black Pipe						
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward					
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation						
								Valves on Mains					
								Automatic Air Valves					
								Compression Air Valves					
								Vacuum Valves					
								Pressure Regulating Valves					
								Check Valves Hose Bibbs					
								Floor and Ceiling Plates					
								1/2 in.		3/4 in.			
								1 in.		1 1/4 in.			
								1 1/2 in.		2 in.			
								Floor Tubes					
								Bronzing Material					
								Lbs.		Bronze			
								Gals.		Liquid			
												Enamel	
								Gal. Expansion Tank					
												Heat Generator	
												Heat Regulator	
												Thermostat	
								Pipe and Fittings					
								Ft. 1/2 in. Galv. Pipe					
								Ft. 3/4 in. Galv. Pipe					
								Ft. 1/2 in. Black Pipe					
								Ft. 3/4 in. Black Pipe					
								Ft. 1 in. Black Pipe					
								Ft. 1 1/4 in. Black Pipe					
								Ft. 1 1/2 in. Black Pipe					
								Ft. 2 in. Black Pipe					
								Ft. 2 1/2 in. Black Pipe					
								Ft. 3 in. Black Pipe					
								Total sq. ft. @					
								Total sq. ft. @					
								Total sq. ft. @					
								Indirect Radiators					
								Coils					
								Valves					
								1/2 in.		Radiator Valves			
								3/4 in.		Radiator Valves			
								1 in.		Radiator Valves			
								1 1/4 in.		Radiator Valves			
								1 1/2 in.		Radiator Valves			
								2 in.		Radiator Valves			
								Union Elbows					
								1/2 in.		Union Elbows			
								3/4 in.		Union Elbows			
								1 in.		Union Elbows			
								1 1/4 in.		Union Elbows			
								1 1/2 in.		Union Elbows			
								2 in.		Union Elbows			
								R. & L. Elbows					
								Reducing Elbows					
								x					
								x					
								45 in. Elbows					
								Carried Forward					
								Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
Coils								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1¼ in. Blk. Elbows, C. I.			
½ in.		Radiator Valves						1½ in. Blk. Elbows, C. I.			
¾ in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2½ in. Blk. Elbows, C. I.			
1¼ in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1½ in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
½ in.		Union Elbows									
¾ in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1¼ in.		Union Elbows						x			
1½ in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum Valves				
								Pressure Regulating Valves				
								Check Valves Hose Bibbs				
								Floor and Ceiling Plates				
								1/2 in.		3/4 in.		
								1 in.		1 1/4 in.		
								1 1/2 in.		2 in.		
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock												
Gauge												
Altitude Gauge												
Thermometer												
Boiler Regulator												
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows												
in. Smoke Pipe Tees												
in. Damper												
Radiators												
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.								
									Floor Tubes			
									Bronzing Material			
									Lbs.		Bronze	
									Gals.		Liquid	
									Enamel			
									Gal. Expansion Tank			
									Heat Generator			
									Heat Regulator			
									Thermostat			
									Pipe and Fittings			
									Ft. 1/2 in. Galv. Pipe			
									Ft. 3/4 in. Galv. Pipe			
									Ft. 1/2 in. Black Pipe			
									Ft. 3/4 in. Black Pipe			
									Ft. 1 in. Black Pipe			
									Ft. 1 1/4 in. Black Pipe			
									Ft. 1 1/2 in. Black Pipe			
									Ft. 2 in. Black Pipe			
									Ft. 2 1/2 in. Black Pipe			
									Ft. 3 in. Black Pipe			
									Elbows			
									1/2 in. Galv. Elbows, Mal.			
									3/4 in. Galv. Elbows, Mal.			
									1/2 in. Blk. Elbows, C. I.			
									3/4 in. Blk. Elbows, C. I.			
									1 in. Blk. Elbows, C. I.			
									1 1/4 in. Blk. Elbows, C. I.			
									1 1/2 in. Blk. Elbows, C. I.			
									2 in. Blk. Elbows, C. I.			
									2 1/2 in. Blk. Elbows, C. I.			
									3 in. Blk. Elbows, C. I.			
									R. & L. Elbows			
									Reducing Elbows			
									x			
									x			
									45 in. Elbows			
Carried Forward								Carried Forward				

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed								Floor Tubes			
Blow-Off Cock								Bronzing Material			
Gauge								Lbs.		Bronze	
Altitude Gauge								Gals.		Liquid	
Thermometer								Enamel			
Boiler Regulator											
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
Coils								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1¼ in. Blk. Elbows, C. I.			
½ in.		Radiator Valves						1½ in. Blk. Elbows, C. I.			
¾ in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2½ in. Blk. Elbows, C. I.			
1¼ in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1½ in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
½ in.		Union Elbows									
¾ in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1¼ in.		Union Elbows						x			
1½ in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward					
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation	Valves on Mains					
								Automatic Air Valves					
								Compression Air Valves					
								Vacuum Valves					
								Pressure Regulating Valves					
								Check Valves		Hose Bibbs			
								Floor and Ceiling Plates					
								1/2 in.	3/4 in.				
								1 in.	1 1/4 in.				
								1 1/2 in.	2 in.				
Boiler													
Lbs. Boiler Covering													
Water Feed													
Blow-Off Cock													
Gauge													
Altitude Gauge													
Thermometer													
Boiler Regulator													
								Floor Tubes					
Bronzing Material													
Lbs.								Bronze					
Gals.								Liquid					
								Enamel					
Gal. Expansion Tank													
								Heat Generator					
								Heat Regulator					
								Thermostat					
Pipe and Fittings													
Ft. 1/2 in. Galv. Pipe													
Ft. 3/4 in. Galv. Pipe													
Ft. 1/2 in. Black Pipe													
Ft. 3/4 in. Black Pipe													
Ft. 1 in. Black Pipe													
Ft. 1 1/4 in. Black Pipe													
Ft. 1 1/2 in. Black Pipe													
Ft. 2 in. Black Pipe													
Ft. 2 1/2 in. Black Pipe													
Ft. 3 in. Black Pipe													
Total sq. ft. @													
Total sq. ft. @													
Total sq. ft. @													
Indirect Radiators													
Coils													
Valves													
1/2 in.								Radiator Valves					
3/4 in.								Radiator Valves					
1 in.								Radiator Valves					
1 1/4 in.								Radiator Valves					
1 1/2 in.								Radiator Valves					
2 in.								Radiator Valves					
Union Elbows													
1/2 in.								Union Elbows					
3/4 in.								Union Elbows					
1 in.								Union Elbows					
1 1/4 in.								Union Elbows					
1 1/2 in.								Union Elbows					
2 in.								Union Elbows					
R. & L. Elbows													
Reducing Elbows													
								x					
								x					
								45 in. Elbows					
Carried Forward													
								Carried Forward					

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
1/2 in. Black Tees C. I.				Offsets			
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.				Hangers			
1 1/2 in. Black Tees C. I.				Pipe Expansion			
2 in. Black Tees C. I.				Hook Plates			
2 1/2 in. Black Tees C. I.							
3 in. Black Tees C. I.				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
Nipples				Extra Labor for Handling			
1/2 in. Nipples, Assd. Lgths.				Superintendence			
3/4 in. Nipples, Assd. Lgths.				Board			
1 in. Nipples, Assd. Lgths.				Carfare			
1 1/4 in. Nipples, Assd. Lgths.				Incidentals			
1 1/2 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 1/2 in. Nipples, Assd. Lgths.				Candles Cloth			
3 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils											
Valves											
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows								Reducing Elbows			
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Coils											
Valves											
1/2 in.		Radiator Valves									
3/4 in.		Radiator Valves									
1 in.		Radiator Valves									
1 1/4 in.		Radiator Valves									
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows											
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows									
1 1/4 in.		Union Elbows									
1 1/2 in.		Union Elbows									
2 in.		Union Elbows									
								R. & L. Elbows			
								Reducing Elbows			
								x			
								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE 191 STEAM VAPOR HOT WATER

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward				
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation					
								Valves on Mains				
								Automatic Air Valves				
								Compression Air Valves				
								Vacuum Valves				
								Pressure Regulating Valves				
								Check Valves Hose Bibbs				
								Floor and Ceiling Plates				
								1/2 in.		3/4 in.		
								1 in.		1 1/4 in.		
								1 1/2 in.		2 in.		
Boiler												
Lbs. Boiler Covering												
Water Feed												
Blow-Off Cock								Floor Tubes				
Gauge								Bronzing Material				
Altitude Gauge								Lbs.		Bronze		
Thermometer								Gals.		Liquid		
Boiler Regulator								Enamel				
								Gal. Expansion Tank				
Feet in. Smoke Pipe												
in. Smoke Pipe Elbows								Heat Generator				
in. Smoke Pipe Tees								Heat Regulator				
in. Damper								Thermostat				
Radiators								Pipe and Fittings				
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.					Ft. 1/2 in. Galv. Pipe			
									Ft. 3/4 in. Galv. Pipe			
									Ft. 1/2 in. Black Pipe			
									Ft. 3/4 in. Black Pipe			
									Ft. 1 in. Black Pipe			
									Ft. 1 1/4 in. Black Pipe			
									Ft. 1 1/2 in. Black Pipe			
									Ft. 2 in. Black Pipe			
									Ft. 2 1/2 in. Black Pipe			
									Ft. 3 in. Black Pipe			
Total sq. ft. @												
Total sq. ft. @												
Total sq. ft. @								Elbows				
Indirect Radiators								1/2 in. Galv. Elbows, Mal.				
								3/4 in. Galv. Elbows, Mal.				
Coils								1/2 in. Blk. Elbows, C. I.				
								3/4 in. Blk. Elbows, C. I.				
								1 in. Blk. Elbows, C. I.				
Valves								1 1/4 in. Blk. Elbows, C. I.				
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.				
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.				
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.				
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.				
1 1/2 in.		Radiator Valves										
2 in.		Radiator Valves										
Union Elbows								R. & L. Elbows				
1/2 in.		Union Elbows										
3/4 in.		Union Elbows										
1 in.		Union Elbows						Reducing Elbows				
1 1/4 in.		Union Elbows						x				
1 1/2 in.		Union Elbows						x				
2 in.		Union Elbows						45 in. Elbows				
Carried Forward								Carried Forward				

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves											
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								R. & L. Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								Reducing Elbows			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.....

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe								Heat Generator			
in. Smoke Pipe Elbows								Heat Regulator			
in. Smoke Pipe Tees								Thermostat			
in. Damper											
Radiators								Pipe and Fittings			
No. of Rads.	Sect'n's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								½ in.		¾ in.	
								1 in.		1¼ in.	
								1½ in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge											
Thermometer											
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Floor Tubes			
								Bronzing Material			
								Lbs.		Bronze	
								Gals.		Liquid	
								Enamel			
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
								Pipe and Fittings			
								Ft. ½ in. Galv. Pipe			
								Ft. ¾ in. Galv. Pipe			
								Ft. ½ in. Black Pipe			
								Ft. ¾ in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1¼ in. Black Pipe			
								Ft. 1½ in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2½ in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators											
								Elbows			
								½ in. Galv. Elbows, Mal.			
								¾ in. Galv. Elbows, Mal.			
								½ in. Blk. Elbows, C. I.			
								¾ in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1¼ in. Blk. Elbows, C. I.			
								1½ in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2½ in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Union Elbows								R. & L. Elbows			
½ in. Union Elbows											
¾ in. Union Elbows											
1 in. Union Elbows											
1¼ in. Union Elbows								Reducing Elbows			
1½ in. Union Elbows								x			
2 in. Union Elbows								x			
								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
½ in. Galv. Tees, Mal.							
¾ in. Galv. Tees, Mal.							
				Offsets			
½ in. Black Tees C. I.							
¾ in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1¼ in. Black Tees C. I.							
1½ in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2½ in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1¼ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2½ in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
½ in. ¾ in. Plugs				Carpenter Work			
1 in. 1¼ in. Plugs				Mason Work			
1½ in. 2 in. Plugs				Sheet Metal Work			
2½ in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
½ in. Nipples, Assd. Lgths.				Board			
¾ in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1¼ in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1½ in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2½ in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum Valves	
								Pressure Regulating Valves	
								Check Valves Hose Bibbs	
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
Lbs. Boiler Covering									
Water Feed								Floor Tubes	
Blow-Off Cock								Bronzing Material	
Gauge								Lbs.	Bronze
Altitude Gauge								Gals.	Liquid
Thermometer									Enamel
Boiler Regulator									
								Gal. Expansion Tank	
Feet in. Smoke Pipe									
in. Smoke Pipe Elbows								Heat Generator	
in. Smoke Pipe Tees								Heat Regulator	
in. Damper								Thermostat	
								Pipe and Fittings	
								Ft. 1/2 in. Galv. Pipe	
								Ft. 3/4 in. Galv. Pipe	
								Ft. 1/2 in. Black Pipe	
								Ft. 3/4 in. Black Pipe	
								Ft. 1 in. Black Pipe	
								Ft. 1 1/4 in. Black Pipe	
								Ft. 1 1/2 in. Black Pipe	
								Ft. 2 in. Black Pipe	
								Ft. 2 1/2 in. Black Pipe	
								Ft. 3 in. Black Pipe	
Total sq. ft. @									
Total sq. ft. @									
Total sq. ft. @									
Indirect Radiators								Elbows	
								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
								1/2 in. Blk. Elbows, C. I.	
Coils								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
Valves								1 1/4 in. Blk. Elbows, C. I.	
1/2 in. Radiator Valves								1 1/2 in. Blk. Elbows, C. I.	
3/4 in. Radiator Valves								2 in. Blk. Elbows, C. I.	
1 in. Radiator Valves								2 1/2 in. Blk. Elbows, C. I.	
1 1/4 in. Radiator Valves								3 in. Blk. Elbows, C. I.	
1 1/2 in. Radiator Valves									
2 in. Radiator Valves									
Union Elbows								R. & L. Elbows	
1/2 in. Union Elbows									
3/4 in. Union Elbows									
1 in. Union Elbows								Reducing Elbows	
1 1/4 in. Union Elbows								x	
1 1/2 in. Union Elbows								x	
2 in. Union Elbows								45 in. Elbows	
Carried Forward								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum	Valves
								Pressure Regulating Valves	
								Check Valves	Hose Bibbs
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
Boiler									
								Lbs. Boiler Covering	
								Water Feed	
								Blow-Off Cock	
								Gauge	
								Altitude Gauge	
								Thermometer	
								Boiler Regulator	
								Feet in. Smoke Pipe	
								in. Smoke Pipe Elbows	
								in. Smoke Pipe Tees	
								in. Damper	
								Floor Tubes	
								Bronzing Material	
								Lbs.	Bronze
								Gals.	Liquid
									Enamel
								Gal. Expansion Tank	
								Heat Generator	
								Heat Regulator	
								Thermostat	
								Pipe and Fittings	
								Ft. 1/2 in. Galv. Pipe	
								Ft. 3/4 in. Galv. Pipe	
								Ft. 1/2 in. Black Pipe	
								Ft. 3/4 in. Black Pipe	
								Ft. 1 in. Black Pipe	
								Ft. 1 1/4 in. Black Pipe	
								Ft. 1 1/2 in. Black Pipe	
								Ft. 2 in. Black Pipe	
								Ft. 2 1/2 in. Black Pipe	
								Ft. 3 in. Black Pipe	
								Total sq. ft. @	
								Total sq. ft. @	
								Total sq. ft. @	
								Indirect Radiators	
								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
								1 1/4 in. Blk. Elbows, C. I.	
								1 1/2 in. Blk. Elbows, C. I.	
								2 in. Blk. Elbows, C. I.	
								2 1/2 in. Blk. Elbows, C. I.	
								3 in. Blk. Elbows, C. I.	
								R. & L. Elbows	
								Union Elbows	
								1/2 in. Union Elbows	
								3/4 in. Union Elbows	
								1 in. Union Elbows	
								1 1/4 in. Union Elbows	
								1 1/2 in. Union Elbows	
								2 in. Union Elbows	
								Reducing Elbows	
								x	
								x	
								45 in. Elbows	
								Carried Forward	
								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock								Floor Tubes			
Gauge								Bronzing Material			
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator								Enamel			
								Gal. Expansion Tank			
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows								Heat Generator			
in. Smoke Pipe Tees								Heat Regulator			
in. Damper								Thermostat			
Radiators								Pipe and Fittings			
No. of Rads.	Sect's in ea.	Hgt.	Pattern	Sq. Ft.				Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @								Elbows			
Indirect Radiators								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
Coils								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
Valves								1 1/4 in. Blk. Elbows, C. I.			
1/2 in.		Radiator Valves						1 1/2 in. Blk. Elbows, C. I.			
3/4 in.		Radiator Valves						2 in. Blk. Elbows, C. I.			
1 in.		Radiator Valves						2 1/2 in. Blk. Elbows, C. I.			
1 1/4 in.		Radiator Valves						3 in. Blk. Elbows, C. I.			
1 1/2 in.		Radiator Valves									
2 in.		Radiator Valves									
Union Elbows								R. & L. Elbows			
1/2 in.		Union Elbows									
3/4 in.		Union Elbows									
1 in.		Union Elbows						Reducing Elbows			
1 1/4 in.		Union Elbows						x			
1 1/2 in.		Union Elbows						x			
2 in.		Union Elbows						45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
in. to in. Bushings				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
				Bid			
Carried Forward							

HEATING ESTIMATE FOR Mr. _____

Steam or Water?								Amount Forward			
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation				
								Valves on Mains			
								Automatic Air Valves			
								Compression Air Valves			
								Vacuum Valves			
								Pressure Regulating Valves			
								Check Valves Hose Bibbs			
								Floor and Ceiling Plates			
								1/2 in.		3/4 in.	
								1 in.		1 1/4 in.	
								1 1/2 in.		2 in.	
Boiler											
Lbs. Boiler Covering											
Water Feed											
Blow-Off Cock											
Gauge											
Altitude Gauge								Lbs.		Bronze	
Thermometer								Gals.		Liquid	
Boiler Regulator											
Feet in. Smoke Pipe											
in. Smoke Pipe Elbows											
in. Smoke Pipe Tees											
in. Damper											
								Gal. Expansion Tank			
								Heat Generator			
								Heat Regulator			
								Thermostat			
Radiators								Pipe and Fittings			
								Ft. 1/2 in. Galv. Pipe			
								Ft. 3/4 in. Galv. Pipe			
								Ft. 1/2 in. Black Pipe			
								Ft. 3/4 in. Black Pipe			
								Ft. 1 in. Black Pipe			
								Ft. 1 1/4 in. Black Pipe			
								Ft. 1 1/2 in. Black Pipe			
								Ft. 2 in. Black Pipe			
								Ft. 2 1/2 in. Black Pipe			
								Ft. 3 in. Black Pipe			
Total sq. ft. @											
Total sq. ft. @											
Total sq. ft. @											
Indirect Radiators								Elbows			
								1/2 in. Galv. Elbows, Mal.			
								3/4 in. Galv. Elbows, Mal.			
								1/2 in. Blk. Elbows, C. I.			
								3/4 in. Blk. Elbows, C. I.			
								1 in. Blk. Elbows, C. I.			
								1 1/4 in. Blk. Elbows, C. I.			
								1 1/2 in. Blk. Elbows, C. I.			
								2 in. Blk. Elbows, C. I.			
								2 1/2 in. Blk. Elbows, C. I.			
								3 in. Blk. Elbows, C. I.			
Valves								R. & L. Elbows			
1/2 in. Radiator Valves											
3/4 in. Radiator Valves											
1 in. Radiator Valves											
1 1/4 in. Radiator Valves											
1 1/2 in. Radiator Valves											
2 in. Radiator Valves											
Union Elbows								Reducing Elbows			
1/2 in. Union Elbows											
3/4 in. Union Elbows											
1 in. Union Elbows											
1 1/4 in. Union Elbows								x			
1 1/2 in. Union Elbows								x			
2 in. Union Elbows								45 in. Elbows			
Carried Forward								Carried Forward			

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in.				Galv. Tees, Mal.			
3/4 in.				Galv. Tees, Mal.			
1/2 in.				Black Tees C. I.			
3/4 in.				Black Tees C. I.			
1 in.				Black Tees C. I.			
1 1/4 in.				Black Tees C. I.			
1 1/2 in.				Black Tees C. I.			
2 in.				Black Tees C. I.			
2 1/2 in.				Black Tees C. I.			
3 in.				Black Tees C. I.			
				Offsets			
				Branch Headers			
				No. Outlets	Size Outlets	Size Run	
				Hangers			
				Pipe	Expansion		
				Hook Plates			
				Pipe Covering			
				Pcs. or	ft. 1 in.	Pipe Covering	
				Pcs. or	ft. 1 1/4 in.	Pipe Covering	
				Pcs. or	ft. 1 1/2 in.	Pipe Covering	
				Pcs. or	ft. 2 in.	Pipe Covering	
				Pcs. or	ft. 2 1/2 in.	Pipe Covering	
				Pcs. or	ft. 3 in.	Pipe Covering	
x	x	Reducing Tees					
x	x	Reducing Tees					
x	x	Reducing Tees					
x	x	Reducing Tees					
x	x	Reducing Tees					
x	x	Reducing Tees					
				Moulded Fittings			
				Lbs. Asbestos Cement for Fittings			
				Registers, Borders or Grilles			
				x			
				x			
				x			
				Sundries			
				Galv. Iron	Tin		
				Bricks	Sand		
				Cement	Nails		
				Lumber			
				Labor			
				Carpenter Work			
				Mason Work			
				Sheet Metal Work			
				Steam Fitter and Helper			
				Extra Labor for Handling			
				Superintendence			
				Board			
				Carfare			
				Incidentals			
				Oil	Paint and Varnish		
				Wicking	Rubber Packing		
				Candles	Cloth		
				Rad. Boards	Rad. Tops		
				Foot Rests	Ash Can		
				Tools	Temporary Heat		
				Insurance			
				Freight and Cartage			
				Overhead Expense			
				Cost			
				Profit			
				Bid			
				Carried Forward			

HEATING ESTIMATE FOR Mr.

Steam or Water?								Amount Forward	
ROOMS	Wide	Long	High	Cu. Ft.	Wall Sur- face Sq. Ft.	Glass Sur- face Sq. Ft.	Sq. Ft. Radiation		
								Valves on Mains	
								Automatic Air Valves	
								Compression Air Valves	
								Vacuum	Valves
								Pressure Regulating Valves	
								Check Valves	Hose Bibbs
								Floor and Ceiling Plates	
								1/2 in.	3/4 in.
								1 in.	1 1/4 in.
								1 1/2 in.	2 in.
								Boiler	
								Lbs. Boiler Covering	
								Water Feed	
								Blow-Off Cock	
								Gauge	
								Altitude Gauge	
								Thermometer	
								Boiler Regulator	
								Floor Tubes	
								Bronzing Material	
								Lbs.	Bronze
								Gals.	Liquid
									Enamel
								Gal. Expansion Tank	
								Heat Generator	
								Heat Regulator	
								Thermostat	
								Pipe and Fittings	
								Ft. 1/2 in. Galv. Pipe	
								Ft. 3/4 in. Galv. Pipe	
								Ft. 1/2 in. Black Pipe	
								Ft. 3/4 in. Black Pipe	
								Ft. 1 in. Black Pipe	
								Ft. 1 1/4 in. Black Pipe	
								Ft. 1 1/2 in. Black Pipe	
								Ft. 2 in. Black Pipe	
								Ft. 2 1/2 in. Black Pipe	
								Ft. 3 in. Black Pipe	
								Total sq. ft. @	
								Total sq. ft. @	
								Total sq. ft. @	
								Indirect Radiators	
								1/2 in. Galv. Elbows, Mal.	
								3/4 in. Galv. Elbows, Mal.	
								1/2 in. Blk. Elbows, C. I.	
								3/4 in. Blk. Elbows, C. I.	
								1 in. Blk. Elbows, C. I.	
								1 1/4 in. Blk. Elbows, C. I.	
								1 1/2 in. Blk. Elbows, C. I.	
								2 in. Blk. Elbows, C. I.	
								2 1/2 in. Blk. Elbows, C. I.	
								3 in. Blk. Elbows, C. I.	
								R. & L. Elbows	
								1/2 in. Union Elbows	
								3/4 in. Union Elbows	
								1 in. Union Elbows	
								1 1/4 in. Union Elbows	
								1 1/2 in. Union Elbows	
								2 in. Union Elbows	
								Reducing Elbows	
								x	
								x	
								45 in. Elbows	
								Carried Forward	
								Carried Forward	

MADE.....191.....STEAM.....VAPOR.....HOT WATER.....

Amount Forward				Amount Forward			
Pipe and Fittings—Cont'd.				Return Bends			
Tees				Return Bends R. & L.			
1/2 in. Galv. Tees, Mal.							
3/4 in. Galv. Tees, Mal.							
				Offsets			
1/2 in. Black Tees C. I.							
3/4 in. Black Tees C. I.				Branch Headers			
1 in. Black Tees C. I.				No. Outlets Size Outlets Size Run			
1 1/4 in. Black Tees C. I.							
1 1/2 in. Black Tees C. I.				Hangers			
2 in. Black Tees C. I.				Pipe Expansion			
2 1/2 in. Black Tees C. I.				Hook Plates			
3 in. Black Tees C. I.							
				Pipe Covering			
				Pcs. or ft. 1 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/4 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 1 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 2 1/2 in. Pipe Covering			
x x Reducing Tees				Pcs. or ft. 3 in. Pipe Covering			
x x Reducing Tees							
Crosses				Moulded Fittings			
Y's				Lbs. Asbestos Cement for Fittings			
Bushings				Registers, Borders or Grilles			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings				x			
in. to in. Bushings							
in. to in. Bushings				Sundries			
in. to in. Bushings				Galv. Iron Tin			
				Bricks Sand			
Caps				Cement Nails			
				Lumber			
Plugs				Labor			
1/2 in. 3/4 in. Plugs				Carpenter Work			
1 in. 1 1/4 in. Plugs				Mason Work			
1 1/2 in. 2 in. Plugs				Sheet Metal Work			
2 1/2 in. 3 in. Plugs				Steam Fitter and Helper			
				Extra Labor for Handling			
Nipples				Superintendence			
1/2 in. Nipples, Assd. Lgths.				Board			
3/4 in. Nipples, Assd. Lgths.				Carfare			
1 in. Nipples, Assd. Lgths.				Incidentals			
1 1/4 in. Nipples, Assd. Lgths.				Oil Paint and Varnish			
1 1/2 in. Nipples, Assd. Lgths.				Wicking Rubber Packing			
2 in. Nipples, Assd. Lgths.				Candles Cloth			
2 1/2 in. Nipples, Assd. Lgths.				Rad. Boards Rad. Tops			
3 in. Nipples, Assd. Lgths.				Foot Rests Ash Can			
				Tools Temporary Heat			
R. & L. Couplings				Insurance			
				Freight and Cartage			
Unions and Flange Unions				Overhead Expense			
				Cost			
				Profit			
Carried Forward				Bid			

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